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ABSTRACT

This is the first report of research results in the study of Title I intra-district allocation mandated by Congress in the Education Amendments of 1974. It has two major parts. The first describes in detail the changes in allocation policy planned by the 13 participating Local Education Agencies (LEAs). The second part describes the research plan for studying the effects of these allocation policies on program delivery and associated costs, student composition, student experiences, and community response. Documenting the deliberate changes made by each of the demonstration districts in the various stages of the allocation process is the first objective of the research portion of the demonstration studies. The second objective is to examine the impact of those changes on a number of dependent variables including program offerings and associated costs, student characteristics, and others as listed above. The exploration of the relationships between these variables is designed to assess the generalizability of various allocation options for various types of districts and to identify more or less successful approaches to the planning process. Although data are collected from a variety of sources, the primary sampling unit in the research design is the student. The student sample is drawn from up to four school types within each of the demonstration districts. The basic design is a pre-post analysis, with baseline data collected in 1975-76 under standard allocation procedures to be compared with change data collected in 1976-77 and again in 1977-78. Data are collected at all levels within the district, from district administrators by informal interview, from parents by structured interview, and from principals, homeroom teachers and instructional specialists by self administered questionnaires. (Author/AM)

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ESEA TITLE I ALLOCATION POLICY: DEMONSTRATION STUDY

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GLOSSARY

AFDC	- Aid to Families with Dependent Children. Federally supported and state administered welfare program. Counts of AFDC recipient children are used in the formula for allocating federal compensatory education funds.
"By-Pass"	- Procedure instituted by the federal government when school districts are not in compliance with federal regulations with regard to administering compensatory education funds. The federal government "by-passes" the district and administers funds directly.
"Carry-Over"	- Federal funds for compensatory education which are not used during one year can be carried over to the next year. The phrase is used as an adjective or noun.
Concentration	- This term is used in reference to the distribution of compensatory services among eligible schools and students. The lower the proportion of eligible schools and students or students receiving services the greater is the concentration.
CTBS	- California Test of Basic Skills. A standardized achievement test.
ESAA	- Emergency School Assistance Act. This act provides funds to help school districts desegregate. Most funds go for compensatory reading and math instruction and for human relations programs.
ESEA	- The Elementary and Secondary Education Act of 1965. This act instituted federal aid to elementary and secondary education on a large scale. It has been amended in 1966, 1968, 1970, 1972, 1974, and 1976. It comes up for renewal and will probably be amended again in 1978.

Free Lunch	Federal program providing food to children from low income families. It is used herein to refer to the program and to numbers of children eligible for it, as in "free lunch counts." It is used as shorthand for "reduced price lunch," an additional component of the program.
HEW	The United States Department of Health, Education, and Welfare.
"Hold Harmless"	A practice incorporated in the ESEA legislation and regulations which prevents the withdrawal of federal funds and services from school districts and schools because of changes in allocation formulas or the components of such formulas.
ITBS	Iowa Test of Basic Skills. A standardized achievement test.
LEA	Local Education Agency. This is used herein as synonymous with school district. This term is used for federal grants and contract administration. It appears in federal legislation and regulations.
LEA Eligible	Students defined (by the LEA) as eligible to receive Title I ESEA services.
MAT	Metropolitan Achievement Test. A standardized achievement test.
NIE	The National Institute of Education, a federal agency; a branch of HEW.
N & D	Neglected and Delinquent Children. These children are counted as part of the formula for allocating federal funds for compensatory education.
Ratable Reduction	A term used to describe the discounting of dollars for which states and counties are eligible in order to match actual allocation to Congressional appropriations.
RFP	Request for Proposal. These are issued by the federal government in order to insure competitive bidding in the procurement process.

SEA - State Education Agency.

SEA Eligible - Students defined (by the SEA) as eligible to receive Title I ESEA services.

Target - To target is to select among eligible schools and students those who will be served. It is used synonymously with serve. Thus, targeted students are students actually served by Title I. Targeting is the practice used for selection for service.

Title I - Title I of the Elementary and Secondary Education Act of 1965. This title provides funds for compensatory education to be allocated based on the incidence of poverty. Currently, over 2 billion dollars are provided through this Title I, the largest single component of federal aid to education.

USOE - The United States Office of Education, a branch of HEW responsible for administering federal education programs and funds.

USOE Eligible - Students defined (by USOE) as eligible to receive Title I ESEA services.

1.0 INTRODUCTION AND OVERVIEW

This is the first report of research results in the study of Title I intra-district allocation mandated by Congress in the Education Amendments of 1974. It has two major parts. The first (Chapter 2) describes in detail the changes in allocation policy planned by the 13 Local Education Agencies (LEAs) participating in the Demonstration Title I Compensatory Education study being conducted under the auspices of the National Institute of Education (NIE). The second (Chapters 3-13) describes the research plan of Abt Associates to study the effects of those allocation policies on program delivery and associated costs, student composition, student experiences, and community response.

Following a discussion of the legislative mandate (Section 1.1), this introduction provides an overview of both sections of the report. Section 1.2 summarizes the policy options chosen by the participating LEAs, as well as the implications of these options for all stages of the intra-district allocation process. Section 1.3 outlines the research design to be employed in the analysis. We begin with a brief discussion of the legislative mandate for the Demonstration Study.

1.1 Legislative Mandate

The Demonstration Study is a direct response to two references in the research mandate provided in the Education Amendments of 1974 (P.L. 93-380). The first reference is in Section 821(a)(5), which states the overall study shall include:

> ...not more than 20 experimental programs, which shall be reasonably geographically representative, to be administered by the Institute, in cases where the Institute determines that such experimental programs are necessary to carry out the purposes of Clause (1) through (4), and the Commissioner of Education is authorized, notwithstanding any provision of Title I of the Elementary and Secondary Education Act of 1965, at the request of the Institute, to approve the use of grants which educational agencies are eligible to receive under such Title I (in cases where the agency eligible for such grant agrees to such use) in order to carry out such experimental programs.

The second reference is contained in Section 150 of the Statute, and states that:

> For any fiscal year not more than 20 local educational agencies selected for the purpose of 821(a)(5) of the Education Amendments of 1974 may elect, with the approval of the district-wide parent advisory council which is required to be established under Section 141(a)(14) of this title, to allocate funds received from payments under this title on the basis of a method or combination of methods other than the method provided under Section 141(a)(1)(A). Any method selected pursuant to this section shall be so designed and administered as to be free from racial or cultural discrimination.

The wording of Statutory Provisions 821 and 150, as well as the concerns embodied in the history of those provisions, gave NIE very clear direction as to the manner in which to conduct the experimental projects. They were to be allocation studies in which districts would "elect" to allocate their funds in a manner "other than the method provided under Section 141(a)(1)(A)." They would speak to the concerns outlined in "clauses (1) through (4)" of Section 821--particularly the identification of children in "need," the effectiveness of methods for meeting this need, and an exploration of alternative methods for distributing funds to meet these needs. They would require the approval of each district-wide Parent Advisory Council (PAC). Finally, the method of allocation elected by each district would, at the request of the Institute, be approved by the Commissioner "notwithstanding any provision of Title I of the Elementary and Secondary Act of 1965"--in other words, compliance with certain statutory and regulatory provisions of Title I would be waived.

1.2 Overview of Participating Districts and Allocation Policy

The Demonstration Study is being carried out in 13 LEAs across the country, each of which has designed its own approach to intra-district allocation of Title I funds. These districts are initiating several changes in funds allocation procedures, e.g., changes from poverty to achievement eligibility criteria and changes in per-school and per-pupil expenditure, which will provide information on alternative methods for distributing resources and their effects on instructional practice and student selection.

Before describing these intra-district allocation policies, we will briefly describe the process by which the districts became participants. We will also summarize the inter-district allocation process, i.e., the process by which funds are distributed from the federal government to State Education Agencies (SEAs) to LEAs. The implications of this process are that the 13 LEAs begin with very different amounts of resources to allocate.

NIE distributed a Request For Proposal (RFP) to all SEAs in the spring of 1975. Each state was asked to distribute the RFP to LEAs, to accept proposals from LEAs, and to select up to two proposals for submission to NIE. Proposals were to include tentative selection of allocation policy options and a description of procedures for a planning year. NIE reviewed proposals on the basis of three criteria: (1) quality, (2) geographical representation, and (3) Parent Advisory Council approval. Based on their reviews, NIE awarded one-year planning contracts to 16 districts in 13 states.

Given this selection process, the Demonstration LEAs are not a random or probability sample of school districts, but a selected group. This is due in part to the voluntary nature of their participation and in part to the approval process employed by the SEAs and NIE to insure the policy relevance, regional distribution, and feasibility of their plans. There may be several ways in which they are atypical of Title I districts in general. They do differ in one way at least: a number have recently undergone either court-ordered or voluntary desegregation.

One of the most frequently stated rationales for districts' participating in the Demonstration was the difficulty and/or inequity of following Title I regulations under desegregation.*

While the selection process was non-random, a diverse group of school districts was selected. These districts vary in size, in geographic location, and in the urban or rural character of the communities they encompass. In addition to their diversity, a comparison of their demographic characteristics with those of a probability sample of Title I districts indicates that there are very few differences. As a group they are not unusual with respect to the populations residing within their boundaries.**

Of the 16 districts which participated in the planning year, 13 chose to submit implementation plans. After some modification, all 13 plans were approved by NIE, and waivers of Title I regulations were granted by the U.S. Commissioner of Education. The districts are currently implementing their new allocation policy options during the 1976-77 school year. The 13 districts are the following:***

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*Among other stated reasons were: 1) the invalidity of available poverty data in assessing the incidence of poverty; and 2) the inappropriateness of poverty measures generally as criteria for allocating funds for education.

**For a more detailed discussion of these demographic comparisons, see Barbara Hubbell, Glenn Takata, and Michael Hennessy, A Comparison of Demographic Characteristics of Demonstration Title I School Districts with National Estimates (Cambridge, MA: Abt Associates, 1976). The national probability sample of 100 LEAs was drawn for another NIE study--"District Survey I." This study was undertaken by the Stanford Research Institute and the National Opinion Research Center.

***The three districts which chose not to continue are Freeport, New York; Oklahoma City, Oklahoma; and Wichita, Kansas.

Adams County #12, Colorado
Alum Rock, California
Berkeley County, West Virginia
Boston, Massachusetts
Charlotte/Mecklenburg, North Carolina
Harrison County, West Virginia
Houston, Texas
Mesa, Arizona
Newport, Rhode Island
Racine, Wisconsin
Santa Fe, New Mexico
Winston-Salem/Forsyth, North Carolina
Yonkers, New York

Each of the 13 Demonstration districts begins its intra-district allocation process with varying amounts of resources to distribute. These amounts are a function of the current legislation, regulations, and guidelines pertaining to the inter-district allocation process. While much of this process is constrained, a certain amount of discretion exists, especially in the allocation of funds from SEAs to LEAs.

The formula used by the U.S. Commissioner of Education for allocation, which is discussed in detail in Chapters 2.1 and 2.5, provides a standardized, comparable, and objective basis for comparing the resources available to each of the 13 districts. The ratio of children eligible by the Commissioner's formula to the actual Title I funds made available to each district is the measure by which the Title I expenditures per poor pupil in the 13 districts can be compared.

Table 1-1 provides estimates* of the number of children included within each component of the Commissioner's formula, the sum of these components, the Title I grant,** and the ratio of the sum of children to the grant for each of the 13 participating districts. This table illustrates the wide variance in

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*The estimates are computed by calculating the proportion of all children in families below the poverty line in the county who reside in the district and applying that proportion to the AFDC counts and counts of children in institutions for the neglected and delinquent. The county figures are taken from the NCES listing of the allocation formula.

**The Title I grant is taken from the districts' applications.

TABLE 1-1

ESTIMATES OF TITLE I EXPENDITURES PER POOR PUPIL: BASED ON ELIGIBILITY COUNTS IN THE U.S. COMMISSIONER OF EDUCATION FORMULA FOR THIRTEEN LEAS (1975-1976) PARTICIPATING IN THE NIE E.S.E.A. TITLE I DEMONSTRATION

Local Education Agency (LEA)	Children In Families Below Poverty Line: U.S. Census	Children In Families Receiving AFDC**	Children Eligible For Other Reasons***	Total Eligible By USOE Formula	Total Budget Title I Application	Title I Expenditure Per Pupil Based On Formula
Adams County CO	1,036	65	38	1,139	$ 160,136	$140.60
Alum Rock,* CA	2,850	685	219	3,754	$ 818,893	$218.14
Berkeley County, WVA	1,667	0	74	1,741	$ 264,432	$151.88
Boston, MA	27,975	19,255	1,079	41,891	$9,210,897	$219.88
Charlotte, NC	14,557	5	563	15,123	$2,081,692	$137.65
Harrison County, WVA	3,112	0	71	3,183	$ 424,915	$133.50
Houston,* TX	48,987	0	421	49,408	$5,392,953	$109.15
Mesa*, AZ	2,038	0	93	2,131	$ 313,795	$147.25
Newport,* RI	1,070	167	31	1,268	$ 195,997	$154.57
Racine, WS	3,578	1,869	231	5,055	$1,040,607	$205.86
Santa FE*, NM	3,421	0	32	3,453	$ 424,019	$122.80
Winston-Salem, NC	8,766	0	541	9,307	$1,413,268	$151.85
Yonkers.* NY	2,912	2,320	1,124	6,356	$1,844,309	$290.17

*Estimates Proportional to Sub-County District/Total County.
**These only include AFDC counted in the Commissioner's Formula
***Children in institutions for the neglected and delinquent.

resources which the districts have available to allocate to schools and students. Resources range from $109.15 per child (Houston) to $290.17 per child (Yonkers). These figures indicate what the per pupil allocation would be within these districts, if the districts allocated on the basis of poor children alone or if they did not concentrate resources. Neither happens because districts must consider program eligibility on the basis of educational advantage and must concentrate resources. Thus, these estimates indicate the constraints within which the districts allocate to schools and students. The same inter-district allocation procedures were in effect during 1976-77, and thus districts are allocated similar amounts and operate under similar constraints.

Policy Options Relating to Intra-District Allocation

The Demonstration research focuses on intra-district changes in Title I allocation procedures. Although the Demonstration districts were free to make whatever proposals they felt were responsive to the intent of the research, they were asked by NIE to consider allocation changes relating to school eligibility and to concentration of funds and services. Specifically, they were asked to: 1) consider new eligibility criteria for schools--either a new poverty criterion or a criterion based on educational need rather than economic need; and 2) consider either increasing or decreasing the amount of funds and services provided to schools and/or students.

Eleven of the 13 districts which chose to submit proposals offered to change to some form of an educational need criterion to determine school eligibility. All but one of the 13 districts chose to serve more schools than they were able to in 1975-76 (i.e., to deconcentrate funds and services at the school level). All but two of the districts decided to serve more students (i.e., deconcentrate funds and services at the student level).* Within these general limits, therefore, the Demonstration districts offer a variety of methods for selecting Title I schools on the basis of educational need and a wide range of concentration options.

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*Districts involved in the Demonstration Study were granted waivers of certain of the current Title I regulations. Without these waivers they would not be able to serve as many schools and students.

The issues addressed by these new allocation procedures are relevant to every step in the "chain" of intra-district allocation--school eligibility, school targeting, resource allocation to schools, student eligibility, student targeting, and resource allocation to students. Not every district has elected a change at every stage in the process, but the deliberate changes they are making at some stages will have necessary consequences at other stages. The following discussion outlines the major options elected at each step in the chain, the policy issues addressed by these options, and the magnitude of the change from 1975-76 to 1976-77.

School Eligibility

Most of the Demonstration districts have elected to use achievement measures in 1976-77 to determine school eligibility, in contrast with standard poverty criteria and with their own previous practice. In 1975-76 they used a number of indices of poverty, including Aid to Families with Dependent Children (AFDC) counts and census data, either alone or in combination, and free lunch counts, always in combination with AFDC and/or census data. Overall, six districts used a single poverty index to determine school eligibility; the others used two or more poverty indices in combination. In ranking the schools to determine eligibility priority, twelve districts ranked on the percentage of poor students per school; one district used a combination of number and percentage.

For 1976-77, the Demonstration districts have elected four general types of options for establishing school eligibility.

(1) Direct LEA to Student Allocation--Seven districts have elected a form of eligibility-by-educational-need which we have termed "Direct LEA to Student Allocation." The basic rationale stems from a desire to serve low-achieving students (variously defined by different districts) regardless of the

attendance area in which they reside or the school in which they are enrolled. This results in essentially skipping the school as a factor in eligibility and targeting--all schools (within a grade span) are eligible for, and receive, services. These districts, and the grade spans served under the Direct Allocation option, are:

- Adams County #12, Colorado (elementary grades 1-3)
- Alum Rock, California (elementary and middle schools)
- Harrison County, West Virginia (elementary schools)
- Mesa, Arizona (all schools)
- Newport, Rhode Island (elementary schools)
- Racine, Wisconsin (elementary schools)
- Santa Fe, New Mexico (elementary schools)

Under this option, Title I services will not be eliminated from any schools serving the affected grade span, but some will receive reduced services. Other schools will receive services for the first time.

(2) Substitution of Achievement for Poverty--Two of the Demonstration districts have elected an option whereby schools are ranked on the basis of educational need, and all schools below a specified cutoff point are eligible. (It should be noted that this approach does not precisely parallel the standard method of ranking schools by poverty. Adopting the standard method, the districts would have established a district-wide average level of educational need, and all schools above that average would have been eligible. Instead, the two districts selected an arbitrary cutoff point for school eligibility--a certain percentage of students performing below a given percentile on a standardized achievement test.) These districts, and the cutoff points chosen, are:

- Charlotte/Mecklenburg, North Carolina (all elementary schools with 35% or more of the students performing below the 30th percentile).

- Winston-Salem/Forsyth, North Carolina (all elementary schools with 40% or more of the students performing below the 35th percentile).*

Under this option, some schools which were previously served under poverty criteria will not receive Title I services, while other schools will receive services for the first time. Thus, these districts offer the opportunity to study the issue of "negative incentives"--the possible effects upon schools of knowing that success in raising the achievement levels of their students may make them ineligible for funds the following year.

(3) Educational Need, With Poverty "Held-Harmless"--A variant of the above approach was selected by two districts, in which schools were ranked by achievement and newly added Title I schools were selected on their achievement rank. Title I schools previously served under poverty will continue to be served. These districts and their eligibility procedures are:

- Boston, Massachusetts (all schools previously eligible under poverty are still eligible; nine new elementary schools have been added on the basis of educational need).
- Houston, Texas (all schools previously served under poverty are still eligible; nine new elementary schools have been added on the basis of their educational need).

(4) Poverty--The remaining two districts are continuing to use poverty criteria to select eligible schools. However, they will use achievement scores to determine the amount of resources to be allocated to each school. These two districts are:

- Berkeley County, West Virginia (elementary schools)
- Yonkers, New York (elementary schools)

School Targeting

As was the case with many districts in the probability sample of Title I districts, a large number of the Demonstration districts served all eligible elementary schools in 1975-76.

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*This district will continue to serve schools above the elementary level using a poverty criterion to determine eligibility.

Adams County #12, Houston, Mesa, and Yonkers were the exceptions, serving 60%, 41%, 93%, and 75%, respectively, of eligible elementary schools. In 1976-77 all districts except Yonkers (90%) and Racine (88%) are serving all of their eligible schools. Thus, it appears that the distinction between eligibility and targeting of schools in both years is somewhat blurred. However, it should be noted that under criteria employed in 1975-76, i.e., poverty criteria, school targeting followed and was dependent on school eligibility. Under criteria employed in 1976-77, i.e., achievement criteria, school eligibility follows and is dependent on decisions about school targeting.

As indicated in Table 1-2, targeting "all" eligible schools in 1976-77 means serving more schools than were served in 1975-76.* This is particularly true in the Direct Allocation districts and is due there, as in other cases, to an increase in the number of schools eligible using the "new" eligibility rules. Since all districts are serving an increased number of schools in 1976-77, the concentration of resources per school will be reduced for all districts. Again, this is particularly true in the Direct Allocation districts. Whether deconcentration at the school level results in fewer resources per student depends on concentration at the student level. This will be discussed in a later section.

Distribution of Resources to Schools

In most cases, deconcentration of funds and services at the school level will mean decreased funds per served school. However, this will not be a constant percent decrease across all schools within most districts, due to the fact that many districts have elected to change their method of distributing resources to schools.

Traditionally, Title I guidelines have suggested that resources be more heavily concentrated, and a wider variety of

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*Only elementary schools are presented for clarity. Thus, the change figures may be greater or smaller than the overall change figures for the district.

TABLE 1-2

Total Number of Public Elementary Schools, Percentage of Total Served in 1975-1976 and in 1976-1977, and the Difference in Percentages Resulting from the Policy Changes Initiated by 13 LEAs Participating in the NIE ESEA Title I Demonstration

LEAs GROUPED BY SCHOOL ELIGIBILITY POLICY OPTION	1975-1976		1976-1977		CHANGE
POLICY OPTION — LEA	TOTAL NUMBER ELEMENTARIES	PERCENTAGE SERVED BY TITLE I	TOTAL NUMBER ELEMENTARIES	PERCENTAGE SERVED BY TITLE I	INCREASE IN PERCENTAGE OF SCHOOL SERVED
DIRECT STUDENT ALLOCATION					
Adams County	16	19%	16	100%	81%
Alum Rock	19	47%	18*	100%	53%
Harrison County	30	83%	30	100%	17%
Mesa	25	56%	25	100%	44%
Newport	9	33%	9	100%	67%
Racine	33	48%	33**	100%	52%
Santa Fe	16	69%	16	100%	31%
ACHIEVEMENT SUBSTITUTED FOR POVERTY					
Charlotte	73	67%	75	76%	9%
Winston-Salem	37	35%	37	65%	30%
POVERTY PLUS ACHIEVEMENT					
Boston	117	56%	108	69%	13%
Houston	169	32%	169	34%	2%
POVERTY					
Berkeley County	13	77%	14	79%	2%
Yonkers	31	29%	25	36%	7%

* Changes in total number of elementary schools should be noted. These are due to school closings or openings.

** Four of the 33 eligible schools are being served with state compensatory monies rather than Title I monies. The decision as to which schools were to receive Title I was essentially a "direct LEA to student" decision. In addition, current plans call for serving all schools in the district with Title I monies in 1976-1977 when state funds are not available.

services provided, in areas having greater concentrations of the needy poor.* This would seem to imply that resource distribution be based on the percentage of (or number of) poor students in a school, despite the fact that it has always been the educationally disadvantaged students within the school who are to be served.

In 1975-76, the Demonstration districts, like districts across the country, used a variety of procedures for determining the amount of resources to be allotted to each school. The districts' stated criteria ranged from number or percent of poor students to incidence or severity of educational need to, in one case (Santa Fe), an identical amount per school. The results of applying these criteria were that the differences between schools in resources per poor pupil were very large. They ran as high as 6 to 1. Across all 13 districts, the ratio between the school with the highest resource level per pupil and the lowest resource level per pupil averaged approximately 3 to 1.

In 1976-77, in keeping with their overall interest in directly serving the educationally needy without first going through the poverty screen, 12 of the 13 districts have elected to distribute funds to schools based on the number of educationally needy students in each schools. The stated criteria are more systematically aimed at matching the amount of resources to the number of educationally needy children. The closeness of the fit between the number of the educationally needy and the resources per school will vary, depending on the districts' ability to reallocate staff (the largest resource), to find space for programs in schools, etc. While there is still a range of resources distributed to schools within districts, it is smaller than in 1975-76--averaging approximately 2 to 1 across districts. The degree to which the actual resource distribution matches the number of educationally needy, or in fact is more closely related to some other criterion, will be analyzed and reported.

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*This concentration provision was contained in Program Guide 44, which was more advisory than obligatory. New regulations specify that a poverty-eligible school need not receive services if its level of educational deprivation is less than in other targeted schools.

Student Eligibility

Since the inception of Title I, student eligibility for services (program eligibility) has depended on educational need. The services provided by Title I are intended to raise a child's attainment to that appropriate for children his age. In 1975-76 these districts, like the National Probability Sample,* used various means for establishing such need, including standardized tests, staff judgment, and criterion-referenced tests. They also used various cut-off points for eligibility, ranging from the 25th percentile to the 50th percentile based on either local or national norms.

In 1976-77, few of these districts will be making much change in their student eligibility procedures. In large part, this is a function of the nature of program eligibility criteria. Such criteria tend to be used by districts only to establish maximum levels of student achievement above which they will not serve students. A district's needs assessment determines the pool of eligible students and the nature and scope of their needs. Beyond that, the actual intake or pre-service achievement level of the served population depends mostly on student targeting procedures. Thus, student eligibility requirements continue to serve only as a general constraint in determining the served population.

Student Targeting

The basic rule of student targeting in Title I has over the years come to be known as "worst first." In principle this means that students within the eligible pool will be served in priority order by decreasing severity of need; those closest to eligibility cut-off score may not receive any services, depending on the amount of resources available. (See Table 1-3 for a description of the magnitude of targeting changes planned.)

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*NIE is funding a study of Title I services which uses a national probability sample of 100 LEAs.

TABLE 1-3

CHANGES IN AVERAGE NUMBERS OF PUBLIC ELEMENTARY SCHOOL STUDENTS SERVED BY SCHOOLS RESULTING FROM THE POLICY CHANGES INITIATED BY 13 LEAs PARTICIPATING IN THE NIE ESEA TITLE I DEMONSTRATION

LEAs GROUPED BY SCHOOL ELIGIBILITY POLICY OPTION	1975-1976			1976-1977			CHANGE IN AVERAGE NUMBER STUDENTS SERVED BY SCHOOL
POLICY OPTION LEA	NUMBER ELEMENTARY STUDENTS SERVED	NUMBER ELEMENTARY SCHOOLS SERVED	AVERAGE NUMBER STUDENTS SERVED BY SCHOOL	NUMBER ELEMENTARY STUDENTS SERVED	NUMBER ELEMENTARY SCHOOLS SERVED	AVERAGE NUMBER STUDENTS SERVED BY SCHOOL	
DIRECT STUDENT ALLOCATION							
Adams County	174	3	58.0	591	16	36.9	- 21.1
Alum Rock	3,962	9	440.2	9,560	18	531.1	90.9
Harrison Co.	1,409	25	56.4	1,823	30	60.8	4.4
Mesa	2,494	14	178.1	3,229	25	129.2	- 48.9
Newport	175	3	58.3	445	9	49.4	- 8.9
Racine	760	16	47.5	1,552	33	47.0	- 0.5
Santa Fe	735	11	66.8	1,149	16	71.8	5.0
ACHIEVEMENT SUBSTITUTED FOR POVERTY							
Charlotte	6,440	49	131.4	5,924	57	103.9	- 27.5
Winston-Salem	1,812	13	139.4	3,310	24	137.9	- 1.5
POVERTY PLUS ACHIEVEMENT							
Boston	10,130	65	155.8	10,572	74	142.9	- 12.9
Houston	19,518	54	361.4	17,854	58	307.8	- 53.6
POVERTY							
Berkeley Co.	630	10	63.0	1,106	11	100.5	37.5
Yonkers	2,375	9	263.9	2,855	9	317.2	53.3

In practice, the magnitude of difference between actual pre-service achievement level and the eligibility cutoff score varies across districts. This variation is due in part to the fact that some districts rely more heavily than others on teachers' judgment, particularly to select students in grades in which the district does not test. Further, since pre-service achievement levels may vary across schools within a district when resources are distributed to schools based on number or percent poor rather than number of educationally needy, an uneven distribution across schools of resources per needy child may result. This is due to the imperfect correlation between poverty and achievement at the individual child level. A school with a large concentration of poor students may receive sufficient resources to serve all students below the 50th percentile, while a school with fewer poor students (and thus fewer resources) may only be able to serve students below the 35th percentile.

The changes in student targeting being made by these districts are likely to have two effects on the pre-service achievement level of the students. A general change that is likely to occur is more even distribution of pre-service achievement levels of targeted students across schools within each district, as districts distribute resources to schools on the basis of achievement rather than poverty. Another change may occur as a result of deconcentration decisions which result in districts serving more new schools than new students, and thus few student per school than in 1975-76. Serving fewer students per school, if they are served in order of severity of need, has the likely consequence of lowering the average per-service achievement level of the students served. Servicing a lower achieving group has possible consequences for the districts' ability to successfully raise post-service achievement levels. Whether a lower pre-service level actually results will depend on, among other things, the distribution of low-achieving students across the district, and the accuracy of local targeting procedures in identifying those in greatest need. By the same logic, and given the high negative correlation between poverty and achievement level, the students served may be poorer than those previously served.

Targeting decisions also will affect the average amount of Title I resources distributed to children. See Table 1-4 for a description of the results of planned changes.

1.3 Overview of the Research Design

Documenting the deliberate changes made by each of the Demonstration districts in the various stages of the allocation process is the first objective of the research portion of the Demonstration Studies. The second objective is to examine the impact of those changes on a number of dependent variables including student characteristics, program offerings and associated costs, student experiences, student achievement, and community response to the "new" allocation policy. The primary research questions to be addressed are as follows:

- What changes in the various stages of the Title I allocation process are made by each of the Demonstration districts under the waiver of federal regulations?
- What effects do changes in Title I allocation policy have on the instructional and support services experienced by students of different types within the Demonstration districts?
- What effects do changes in Title I allocation policy have on the characteristics (ethnicity, economic status, achievement level, etc.) of the schools and students served by Title I and the other compensatory programs within the Demonstration districts?
- What effects do changes in Title I allocation policy have on the organization and administration of compensatory programs and the instructional services delivered within the Demonstration districts?
- What is the reaction of parents to changes in Title I allocation policy within the Demonstration districts?

TABLE 1-4

PROPORTIONAL DISTRIBUTION (CONCENTRATION) OF TITLE I SERVICES TO ALL STUDENTS - PER PUPIL EXPENDITURE - FOR 13 LEAs PARTICIPATING IN THE NIE ESEA TITLE I DEMONSTRATION

LEAs GROUPED BY SCHOOL ELIGIBILITY POLICY OPTION	1975-76*		1976-77*	
POLICY OPTION LEA	TITLE I EXPENDITURES	PER PUPIL EXPENDITURE	TITLE I EXPENDITURES	PER PUPIL EXPENDITURE
DIRECT STUDENT ALLOCATION				
Adams County	$ 151,203	$ 195	$ 160,970	$ 205
Alum Rock	912,817	214	898,053	73
Harrison County	382,309**	268	****	****
Mesa	407,293	62	377,563	59
Newport	263,854	493	403,721	615
Racine	1,065,508	727	1,084,710	853
Santa Fe	613,042**	559	562,444	320
ACHIEVEMENT SUBSTITUTED FOR POVERTY				
Charlotte	2,424,613	368	2,255,860**	310
Winston-Salem	1,533,542	251	1,852,539	282
POVERTY PLUS ACHIEVEMENT				
Boston	8,856,897	657	9,694,470	663
Houston	7,413,733**	247	8,145,660**	331
POVERTY				
Berkeley County	244,530	347	270,962	194
Yonkers	1,868,158	476	1,259,778	265***

NOTE: Expenditures per student based on duplicated student count.

*Includes expenditures from Title I allocation and Title I carryover.
**Does not include summer school.
***Estimated number of students.
****Not available.

- What effects do changes in allocation policy have on the achievement of selected students within selected Demonstration districts?

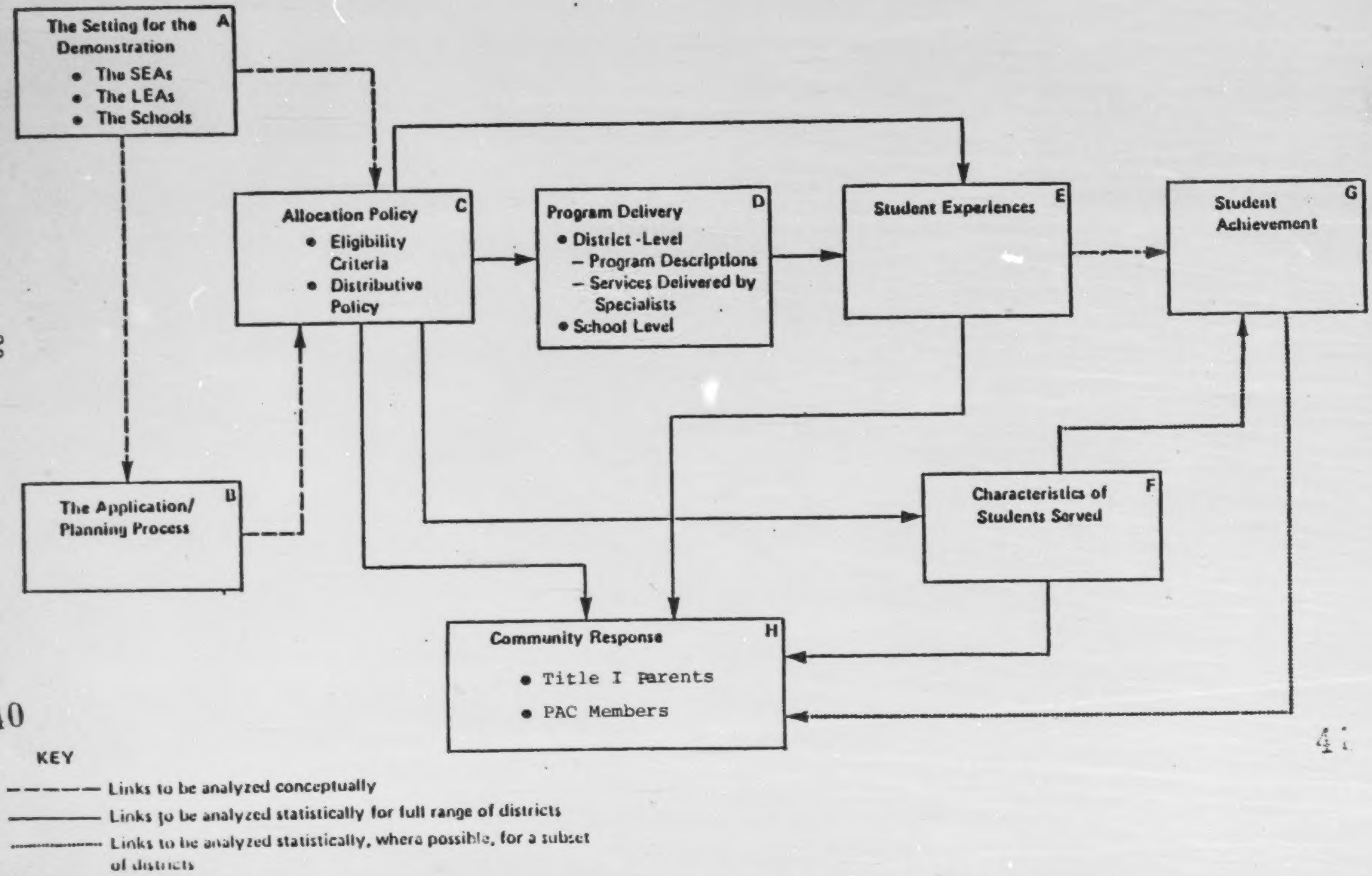
- What are the administrative costs and/or savings associated with changes in Title I allocation policy? What costs are non-recurring, such as costs associated with planning, and what costs are recurring, such as costs associated with testing and changes in program administration?

The relationships between the categories of variables examined in this research are displayed in the analytic model in Figure 1-1. The dotted lines linking Groups A, B, and C indicate relationships between contextual variables and allocation policy changes. Exploration of these relationships is designed to assess the generalizability of various allocation options for various types of districts and to identify more or less successful approaches to the planning process. The solid lines linking Groups C, D, E, F, and H represent both direct and indirect relationships between changes in allocation policy and changes in the dependent variables. These links will be explored statistically in the basic research design. The relationship between student achievement and other variables is set off because this outcome variable will be explored for a subsample of districts depending upon the availability of adequate data for such an analysis.

Although data are collected from a variety of sources, the primary sampling unit in the research design is the student. Data on the instructional and support services received by approximately 4,000 students are reported by their homeroom teachers and instructional specialists. This student sample is drawn from up to four school types within each of the Demonstration districts. The school types are based on the presence or absence of Title I programs in the baseline (1975-76) and implementation (1976-77 and 1977-78) years.

FIGURE 1-1

THE ANALYTIC MODEL FOR RESEARCH ON DEMONSTRATION COMPENSATORY EDUCATION PROJECTS


The Setting for the Demonstration A
• The SEAs
• The LEAs
• The Schools
The Application/ Planning Process B
Allocation Policy C
• Eligibility Criteria
• Distributive Policy
Program Delivery D
• District-Level
– Program Descriptions
– Services Delivered by Specialists
• School Level
Student Experiences E
Student Achievement G
Characteristics of Students Served F
Community Response H
• Title I Parents
• PAC Members
KEY
Links to be analyzed conceptually
Links to be analyzed statistically for full range of districts
Links to be analyzed statistically, where possible, for a subset of districts

Once schools have been randomly selected by school type, all third and fourth grade classrooms in these schools are included in the sample. Two students (one Title I and one non-Title I student, if possible) are randomly selected from these classrooms.

The basic design is a pre-post analysis, with baseline data collected in 1975-76 under standard allocation procedures to be compared with change data collected in 1976-77 and again in 1977-78. Data are collected at all levels within the district--from district administrators and PACs (N=75) by informal interview, from parents (N=1,841) by structured interview, and from principals (N-589), homeroom teachers (N=2,260), and instructional specialists (N=888) by self-administered questionnaires.*

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*These numbers are based on preliminary estimates of response rates of July 19, 1976.

1.4 Outline for Remainder of Report

The remainder of this report covers the following topics.

SECTION	TITLE
(PART I)	(IMPLEMENTATION PLANS)
2.0	Issues Surrounding the Enactment of Title I Compensatory Education
2.1	Allocation Laws, Regulations, Criteria, and Guidelines
2.2	Policy Options
2.3	The 1974 Education Amendments, the NIE Research Plan, and the Demonstration Provisions
2.4	Overview of the Thirteen Demonstration Districts
2.5	Federal Government to State to LEA Allocation Results in the 13 LEAs
2.6	Allocation from LEAs to Schools and Students
2.7	Implementation Decisions: Site Summaries
2.8	Types of Change Initiated by the Demonstration LEAs
2.9	Magnitude of Change
(PART II)	(RESEARCH PLAN)
3.0	Study and Sample Design
4.0	Context: Setting and Application Planning Process
5.0	Allocation Policy
6.0	Program Delivery
7.0	Characteristics of Students Served
8.0	Student Experiences
9.0	Community Response
10.0	Analysis of Systemic Relationships
11.0	Analysis of Change in Systemic Relationships
12.0	Cost Study
13.0	Reporting Schedule

2.0 ISSUES SURROUNDING THE ENACTMENT OF TITLE I COMPENSATORY EDUCATION

The Elementary and Secondary Education Act (ESEA) of 1965 (Public Law 89-10) was born in the transition from the administration of John Kennedy to the administration of Lyndon Johnson. Conceived and articulated by Robert Kennedy, and abortively proposed to Congress by John Kennedy, it was finally through the cooperative midwifery of Lyndon Johnson and Congressman Carl Perkins that the bill became law.*

ESEA was one of several legislative initiatives of the mid-1960s which shared the following three general goals:

- They were established to mobilize anticipated federal government surpluses in order to provide services not provided by local governments and to produce results not being accomplished by them.
- They were designed to focus these new resources on people who most needed them and had been deprived of them -- essentially the poor.
- They were organized to be self-corrective through built-in accountability and evaluation mechanisms.

Each of these three goals carries with it a set of political-philosophical issues which have been debated throughout the legislative history of the Act.

With regard to the first goal, the local school districts around the country were thought to be constrained by their taxing powers and by their voters' disposition. As a result, they were thought to be unable to generate enough revenue and resources to produce significant changes in the school performance of children, in the proclivity of students to continue their education, and in the competencies of graduates. Based on this perception of the local situation, ESEA was designed to provide significant additions to the total resources available to school districts. However, in order to heighten the impact beyond that which might be expected from the proportion of resources added to the local investments, the legislature wrote into the Act a hitherto unknown degree of federal control.

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*For informative accounts of the issues in the early 1960s and their resolution in 1965 see: Philip Meranto, The Politics of Federal Aid to Education in 1965: A Study in Political Innovation (Syracuse: Syracuse University Press, 1967); and Stephen K. Bailey and Edith K. Mosher, ESEA: The Office of Education Administers a Law (Syracuse: Syracuse University Press, 1968).

The political issue attending this effort is grossly labeled as "federal interference" in local government. It is more eloquently discussed by Bailey and Mosher:*

> Quality and quantity of opportunity in education have become matters of national concern. All levels of ~~government, and a variety of~~ branches and agencies at each level, are now deeply involved in a complex and uneasy partnership whose collective aims are transforming educational priorities and methods. Education, like so many other governmental services, has now become involved in a "marble cake," not a "layer cake," of federalism.

The debate over federal involvement in local educational issues which has raged for twenty years has evolved so that the complexity of intergovernmental relations -- poetically described in the quote above -- is assumed. As a result, both the legislation of the mid-60s and the complex set of relations ensuing are taken for granted. The issue now debated therefore is not whether but how the federal government should be involved in local education.

The public debate over the nature of this involvement has focused specifically on the manner in which funds would be linked to state and LEA spending patterns. Currently allocation is based on state average per pupil expenditure. Stated simply, states are rewarded with federal dollars as a ratio of state expenditure levels. Thus, the basic allocation formula mandates that state entitlements for Title I funds be determined my multiplying the number of eligible students by 40% of the state average per pupil expenditure. The incentive for states to spend is limited, however, because the Title I legislation established a high per pupil expenditure cut-off (120% of the national average) and a low per pupil expenditure cut-off (80% of the national average); states with expenditures per pupil above the high cut-off or below the low cut-off are deemed to be spending at the respective cut-off level for purposes of the formula. About half the states allocations are governed by this cut-off mechanism. The amended law and regulations also link allocation to district average per pupil expenditure, but only as a distributive constraint, not as an incentive.*

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*Bailey and Mosher, op. cit., p. 2. For a discussion of federal-state-local relations written concurrent with the passage of ESEA, see Roald F. Campbell and Gerald R. Sroufe, "Toward a Rationale for Federal-State-Local Relations in Education," Phi Delta Kappan 47 (September 1965):2-7.

Title I of ESEA is the largest single source of federal funds transferred to local school districts, and the one most explicitly aimed at reorienting resources to those most in need. This certainly means the poor; it also means students who suffer educational disadvantage. Thus Title I is designed to fulfill the second of the general goals mentioned earlier (i.e., to focus resources on people who most needed them and had been deprived of them). Whether Title I has been as effective as it should be in reaching those most in need, however, has been the subject of many debates. These debates, and those on the several issues surrounding this general concern, have led to amendments to the law in 1966, 1968, 1970, 1972, 1974, and 1976. It is anticipated that they will lead to additional amendments in 1978. These issues are the central concern of NIE's Demonstration Title I Projects and, thus, the research of which this report is one part.

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*This is referred to as "comparability." The regulation requires that the average per pupil expenditure and pupil-teacher ratio be the same in Title I and non-Title I schools. An additional guideline also recommends that the Title I per pupil expenditure be equal to one-half of the per pupil expenditure (including state funds) for non-Title I instruction.

At issue are the mechanisms -- laws and their implementation -- requiring school districts to channel resources so that educational opportunity is equalized. While the set of issues surrounding the first general goal of ESEA is concerned with expanding the "quality and quantity of opportunity," the second set of issues surrounding the second general goal is concerned with defining eligible student populations such that those most in need of equalized opportunity receive it.

Title I of ESEA was strongly influenced by analyses which suggested that opportunity resulting from local initiatives was unequal because the concentration of poverty in specific areas and among specific groups created barriers between the education provided and the ability of children to learn. Thus, Title I required allocation to attendance areas with high concentrations of poverty and to students who were educationally disadvantaged.

The public debate that has continued from the passage of ESEA through the present concerns whether, in fact, concentrations of poverty create barriers which need to be redressed through federal government intervention or whether the real barrier is simply one of educational disadvantage regardless of income considerations. The public debate has thus included questions concerned with the linking of fund allocation to measures of poverty as opposed to more direct measures of educational disadvantage, e.g., test scores. This debate has focused on every stage or layer of the allocation process -- federal to state, state to LEA, LEA to schools and programs, schools and programs to students. A corollary issue concerns whether the Title I legislation is meant to redress educational disadvantage due to any source, or only to redress educational disadvantage resulting from poverty (and some would argue, discrimination). The more programmatic statement of this same issue is what legislation, regulations, guidelines, or criteria must be instituted and implemented to achieve distributive equity in the provision of educational opportunity.

The third general goal outlined above -- establishing accountability and adequate evaluation -- has probably received more legislative attention through ESEA Title I than it has received in any of the other "new frontier" or "great society" programs. There are two major reasons for this. First, unlike programs such as public welfare and unemployment compensation, Title I is not a direct cash assistance program which can be assessed simply in terms of the fact that the service is provided. Rather, it is a multi-service program in which the resources provided are only means to the achievement of established goals. Second, unlike many multi-service programs which have set goals that are diffuse, ambiguous, competing, and sometimes even conflicting (thus impossible to measure, despite the good intentions of the legislative sponsors), Title I has set goals which seem subject to more straightforward measurement and evaluation: test score goals. Given these differences, compensatory education (including Title I) appears to be an appropriate target for scientific evaluation through which assumptions about resource effect can be tested.

Title I of ESEA generated a serious and significant attempt to organize accountability and evaluation efforts. Each step of the process led to further elaboration of the complex implications of the goals and to debate about the goals themselves. One question led to another: Do the programs account for the funds properly? Do LEAs spend the funds as they say they spend them? Is what they say and do that which is intended by the law and regulations? Is what they say and do effective? Are programmatic effects or benefits, if any, worth the costs? How and why are programs effective? How can they be made more effective? How to answer each succeeding question required more sophisticated, sometimes better, and sometimes new research technology.

The legislative development of Title I of ESEA and the public debate surrounding it have frequently focused on these and other issues of accountability and evaluation. However, the legislative process has not resulted in legislation or regulations which address each question independently. What has resulted, therefore, is a marble-like blending of monitoring, auditing, needs assessment, and program evaluation procedures.* Thus, while most of those concerned about the future of Title I believe that the various mechanisms of accountability and evaluation should be continued, there is disagreement about how they should be organized and implemented.

Each of the three broad goals of Title I of ESEA involved political-philosphical issues which were partially resolved with the passage of ESEA in 1965. Each of these goals has also evolved during the decade of implementation, and corollary issues have evolved with them. Many of the goals and their corollary issues have been subjected to revision with each amendment to the Act.

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*For discussions of evaluation in the Title I Program, see 1) Richard L. Fairley, "Accountability's New Tool," American Education 8 (June 1972):33-35.

2) Kathryn A. Hecht, "Five Years of Title I Federal Evaluation," paper presented to the Annual Meeting of American Educational Research Association, Chicago, Illinois, April 1972.

3) Milbrey Wallin McLaughlin, Evaluation and Reform: The Elementary and Secondary Education Act of 1965, Title I (Report #1292-C), Santa Monica, Calif.: The Rand Corporation, January 1974.

4) Jerome T. Murphy, "Title I of ESEA: The Politics of Implementing Federal Education Reform," Harvard Educational Review 41 (February 1971):35-63.

At each milestone of the legislative history of ESEA Title I, the three goals outlined above have raised issues which focus the debate about the law and its amendments on allocation policies and procedures. Each milestone, through the Education Amendments of 1976,* has resulted in new definitions and refinements in the distribution of resources and in the determination of eligibility. These three issues continue to provide the central focus for efforts to modify and improve allocation policy, and, therefore, for the demonstration research described in this report. The system for distributing ESEA Title I funds through all stages in the allocation process for 1975-76 is described in the next section (2.1). This description is constructed through an analysis of current legislation, regulations, criteria, and guidelines. Following the next section there is a brief overview (Section 2.2) of issues which are under discussion for amendment in the next session of the U.S. Congress. These two sections provide the reader with an understanding of current policies as they were implemented in 1975-76 and the general possibilities for new policies. Later sections describe new policies being implemented by LEAs in the Demonstration in more concrete detail.

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*Briefly, Public Law 89-750, the 1966 Amendments to ESEA, altered the income factor used in determining eligibility and introduced the national average per pupil expenditure to the distributive formula. Public Law 90-247, the 1968 Amendments, added AFDC information to the distributive formula, further refining the concept of need, and required reports on successful projects and effective methods for implementing Title I. Public Law 90-230, the 1970 Amendments, required "comparibility," i.e., the demonstration that Title I schools and non-Title I schools were receiving equivalent basic resources. Thus Congress required that LEAs demonstrate that Title I programs were supplementing rather than supplanting basic LEA-supported services. It also required parental involvement, and by implication, parental demand for accountability. Further, it provided for more effective planning by allowing the use of "carry-over" funds -- funds appropriated for, but not spent by, LEAs. Public Law 93-380, the 1974 Amendments, changed the poverty formula and extended parent involvement and accountability. It also required extensive research and evaluation from both USOE and NIE. Finally, the 1976 Amendments altered allocation procedures by focusing "hold-harmless" provisions (provisions assuring agencies that dramatic cuts will not be made in funds due to changing results of the allocation formulae) at the state level rather than the LEA level.

2.1 Allocation Laws, Regulations, Criteria, Guidelines

2.1.1 Introduction

In the following sections, we analyze the process, as mandated by law and regulation, by which Title I funds appropriated by Congress are allocated to state educational agencies, by state educational agencies to local educational agencies, by local agencies to schools, and finally, by schools to students.* Although we pause periodically to introduce "real world" examples, the discussion here is mainly a theoretical presentation of the formal process established by statute. In Sections 2.5 and 2.6, infra, we present in some detail the process as actually performed in the Demonstration projects.

The process for allocating ESEA Title I funds can be viewed as having twelve stages, each of which includes a set of constraining laws and regulations and a set of discretionary decisions. Each stage also involves a different level of decision-making authority, and a different type of decision. "Type of decision" refers first to eligibility, that is, which states, LEAs, schools, or students can receive funds; second to targeting, that is, which states, LEAs, schools, or students will receive funds; and third to proportional distribution, that is, how much funds states, LEAs, schools, or students will receive. The description of the processes and these stages is heuristic, intended only to highlight major allocation decisions. In nature, the stages are not neatly sequential. Instead, several stages in the process frequently take place simultaneously. Nevertheless, outlining them as if they were sequential is useful.

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*The year being described is the 1975-76 school year, the year during which the Demonstration LEAs planned for new policy and procedures and operated their programs without any waivers. New regulations were implemented in the fall of 1976.

The 12 stages are outlined in Chart 2.1 on the following page. They are divided between inter-district stages (stages 1-6) and intra-district stages (7-12). Stages 1 and 2 require minimal compliance, and they have rarely been questioned (i.e., all states are eligible and targeted, and there has been little challenge to that). Stage 3 requires the application of a formula described below in Section 2.1.2. Stages 4, 5, and 6 are partly prescribed by statute and regulation, and are partly at the discretion of the states. Any discretion is, of course, subject to the constraints imposed by interpretation of the law. Stages 1 through 6 are discussed in Section 2.1.2.

Stages 7 through 12 are discussed in Section 2.1.3. These are the stages which are administered by the LEAs. There are required formulae, measurement and calculation options, and LEA discretion at each of these six stages in the process. It is these latter six stages which are the subject of this research. Thus, they receive more detailed discussion.

2.1.2 Determination of LEA Entitlements by the Commissioner of Education

The U.S. Commissioner of Education is responsible for the determination of the Title I "entitlement" for each county. This entitlement is mandated by a legislative formula based on levels of income among children in the county and on average per pupil expenditure in the state; there appears to be little if any discretion on the Commissioner's part in determining the monetary awards for each county.*

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*These procedures apply as stated to LEAs which are coterminous with counties. SEAs have the responsibility for partitioning the county allocations determined by the U.S. Commissioner of Education to districts which have boundaries including sub-county areas. The data on which the U.S. Commissioner's allocation is based are only available down to the county level. Most LEAs in the U.S. are smaller than entire counties. Thus, the states intervene to allocate the money to these sub-county LEAs. They attempt to approximate the formula used by the U.S. Commissioner.

CHART 2.1

STAGES IN THE ALLOCATION PROCESS FOR TITLE I ESEA FUNDS DISTRIBUTION

	Decision Level in the Allocation Process and Level of Administrative Responsibility	TYPE OF DECISION AND ACTION	STAGE
INTER-DISTRICT ALLOCATION	Decisions and Actions of the U.S. Commissioner Allocating Resources to States and to Counties Level I	Eligibility of States for Funds	1
		Targeting of Funds to Eligible SEAs and Counties	2
		Proportional Distribution of Resources to States and Counties	3
	Decisions and Actions of SEAs Allocating Resources to LEAs Level II	Eligibility of LEAs Based on Distribution of Poor Students	4
		Targeting Eligible LEAs for Grants Based on Applications	5
		Proportional Distribution of Resources to Counties and Sub-counties. Redistribution of Excess Funds	6
INTRA-DISTRICT ALLOCATION	Decisions and Actions of LEAs Allocating Resources to Schools Level III	Eligibility of Schools Based on Concentration of Poor Students	7
		Targeting of Schools Based on Percent, or Number, or Both, of Poor Students	8
		Proportional Distribution of Resources to Targeted Schools in Order to Serve the Neediest and Concentrate Services Effectively	9
	Decisions and Actions of School and Program Staff Allocating Resources to Students Level IV	Eligibility of Students Based on Educational Disadvantage	10
		Targeting of Students Based on Greatest Need	11
		Proportional Distribution of Services According to Need	12

It should be noted at the outset that the word "entitlement" is somewhat misleading. For each county within its boundaries, the SEA will receive from the Commissioner a sum of money, the county's "entitlement"; but the SEA does not necessarily distribute that precise amount to the county. As explained below, once the county's "entitlement"--as determined by the Commissioner based on the formula--is in the SEA's hands, the SEA has discretion in allocating the funds to the county.

With certain exceptions and qualifications,* the procedure followed by the Commissioner for determining the entitlement for each county, as specified by Section 103 of the Elementary and Secondary Education Act, as amended, is the following:

1. For each county, the total number of resident children in each of three categories is identified, and the totals for the three categories are added. The three categories are:
    a. The number of children aged five to seventeen, inclusive, in the school district of the county from families below the poverty level, based on data compiled by the Bureau of the Census, U.S. Department of Commerce, using the poverty criterion adapted for the 1970 census.**
    b. Two-thirds the number of children aged five to seventeen, inclusive, in the county from families receiving payments under Aid to Families with Dependent Children sufficient to raise the families' income above poverty level.***

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*The complete statutory scheme for distribution of Title I funds is too complex to be treated here without some omission. This section describes the procedure by which the great bulk of Title I funds are distributed, but omits discussion of certain exceptions and allowances, including procedures for allocating funds to districts when requisite data are not available [Section 103(a)(2)]; funding directly to State Education Agencies for serving the needs of handicapped, migratory and neglected or delinquent children (Sections 121, 122, and 123); special grants and special incentive grants (Sections 126-131); and participation of children enrolled in private schools (Section 141).

**This is the "Orshansky Index" which is a set of formulae including income and family size. For example, for a non-farm family of four the poverty level is $5,038.

***In practice, the size of the AFDC payment alone must be above poverty. Other income is not considered in calculating this factor.

c. The number of children aged five to seventeen living in foster families receiving public funds; or in institutions for neglected or delinquent children; or incarcerated in adult correctional institutions.

2. The average per pupil expenditure in the state is then calculated.

3. Unless the state's average per pupil expenditure is less than 80%, or more than 120%, of the average per pupil expenditure in the United States, the county's Title I entitlement is a product of the following formula:

   (Total of children in the three categories) X 40% (Average per pupil expenditure in the state).

4. For those states whose expenditures per pupil are less than 80% of the average per pupil expenditure in the United States, or greater than 120% of the average per pupil expenditure, the formulae are (respectively):

   (Total of children in the three categories) X [40% X (80% of the average per pupil expenditure in the United States)];

   (Total of children in the three categories) X [40% X (120% of the average per pupil expenditure in the United States)].

Application of the formula yields a dollar entitlement for each county across the country. In recents years, available funds have been insufficient to provide the states with funds equal to all the county entitlements within their state, so the entitlements have been "ratably reduced;" that is, all entitlements across the country have been reduced by a set percentage, in accordance with the terms of Section 144.

Funds sufficient for a 100% entitlement have been unavailable for at least two basic reasons. Principally, Congress has chosen not to appropriate the money. With the exception of the program's first funded year, Congress has never provided funds sufficient for full entitlements. In addition, the ESEA funds available for the county entitlements are depleted by several ESEA expenditures of higher priority: funds for the state agency education programs for handicapped and migratory children (Sections 121 and 122), for example, and Congressionally mandated research and planning studies.

Once the entitlements for the individual counties have been determined, the Commissioner forwards to each state the aggregate sum for the state's counties. Each state also receives a sum equal to 1% of the sum total of the county grants--or $150,000, whichever is larger--for administrative expenses.*

In order to receive ESEA funds, the individual counties must apply to the SEA with details on concentration, coordination with other special education programs, parent involvement, and other program features. The applications must be approved by the SEA. The SEA has discretion to allocate funds among the counties as it wishes. It can award a county less than its (ratably reduced) entitlement; and it would appear the SEA has discretion under certain circumstances to approve a county application for an amount greater than the (ratably reduced) entitlement for that county made by the Commissioner. A county might attain an award greater than its ratably reduced entitlement by the following set of circumstances:

1. Another county in the state is awarded less than its ratably reduced entitlement (see below for further discussion of SEA discretion to cut back), thus freeing funds for SEA discretionary use (the entitlement the SEA received from the Commissioner's office for the county minus the amount the SEA actually awarded the county). Excess funds are more frequently available to the SEA when counties within the state choose not to apply.
2. The SEA then makes the excess money "available to other eligible educational agencies with the greatest need, for the purpose of, where appropriate, redressing inequities inherent in, or mitigating hardships caused by, the application of the provisions of paragraph (2) of section 103(a) [the section describing the entitlement formula] as a result of such factors as population shifts and changing economic circumstances ...." (Section 144 of the Elementary and Secondary Education Act of 1965, as amended.)

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*These sums (the county entitlements and the grants for administrative expenses) are not necessarily the total grant to the SEA, which may be swelled in addition by special incentive grants, funds for services to handicapped and migratory children, etc.

Congress legislated an upper limit to the funding a county could receive through such a process of reallocation by the SEA. By the terms of Section 143(a)(2), each state educational agency:

> ...shall distribute to each local education agency of the state...the amount for which [the county Title I] application has been approved, except that this amount shall not exceed the amount determined for that agency pursuant to section 103. (emphasis added)

Section 103 describes the entitlement formula. To reconcile the prohibition of Section 143(a)(2) with the allowance of Section 144, it is necessary to assume that Congress intended to ban allocations by an SEA to a county which exceed the county's entitlement prior to ratable reductions enacted under Section 144. Such interpretation reconciles the statutory sections, and reflects the understanding of the Office of Education [see proposed regulation 45 F.R. 116 a.11(a)].

In recent years, Congress has appropriated substantially less funding than would be necessary for full entitlements. As a result, a county's funds can be increased well above its (ratably reduced) entitlement without violating the ban on funding in excess of the entitlement before reduction.

As noted above, the SEA can award the county less than its formula entitlement, as long as the depleted award "does not have the effect of altering the project to such an extent that it no longer provides reasonable promise of substantial progress toward meeting the special educational needs of educationally deprived children" [45 C.F.R. 116.34(b)]. This vague constraint is obviously subject to wide-ranging interpretation--and, unless carefully defined and enforced by the Commissioner's office, to idiosyncratic application from SEA to SEA. Though program guidelines suggest a per pupil measure of concentration at one-half the amount of money spent per pupil with state and local funds (see Program Guide No. 44 Section 4.7), the guideline is merely precatory. The interpretation of this guideline is usually that it applies only to the procedures by which LEAs distribute services to schools, not states' allocations to LEAs.

Before turning to intra-district allocation by the LEAs, we will discuss a basic question: What qualifications must a district meet to become eligible to apply for Title I funds?

To receive Title I funding, an LEA must satisfy three preliminary requirements:

1. By the terms of Section 103(b)(1), at least ten children aged five to seventeen from low-income families (as determined by the entitlement formula described in Section 2.1.2) must be living in LEA.

2. By the terms of Section 143(c)(1), the LEA must be located within a state which does not take Title I payments into account in determining LEA eligibility for state aid, or the amount of state aid.

3. Finally, by the terms of Section 143(c)(1), the SEA must determine that:

> The combined fiscal effort..of that agency [the LEA] and the State with respect to the provision of free public education by that agency for the preceding fiscal year was not less than such combined fiscal effort for that purpose for the second preceding fiscal year.

The policy underlying the latter two requirements is straightforward: Congress did not wish Title I funds to be used as a substitute for state and local funds. The harshness of the third requirement is mitigated by OE regulations which permit a 5% diminution of state and local funds from the second preceding fiscal year to the preceding year. The regulation also creates an exception where a reduction greater than 5% "was occasioned by an unusual event such as the removal of a large segment of the property from the tax rolls"(see C.F.R. 116.45(a,b)(1974)). Whether general economic distress would constitute such an "unusual event" is unclear.

2.1.3 LEA Allocation of Title I Funds

Local Education Agencies make a series of decisions in allocating their Title I funds to various schools and children within their boundaries. Operating within constraints imposed by the Title I legislation, as well as the regulations, criteria, and guidelines issued by the Office of Education and their SEAs, the LEAs must:

- choose eligible schools from among the schools in the district using a poverty criterion;
- select target schools, that is, decide which of the eligible schools will in fact receive Title I services;
- distribute services to targeted schools proportionately, based on concentrations of needy children;
- choose eligible students in target schools from all the students in these schools, using an educational achievement criterion;
- select target students, that is, decide which of the eligible students will receive Title I services;
- provide services to targeted children.

The laws and regulations affecting these six stages of the allocation process are complicated, and by no means free of ambiguity. Certain statutory provisions and regulations are subject to broad interpretation; options are offered LEAs which appear in conflict with some constraints; standards are intimated or suggested, but not required. Below, we have sketched the set of decisions which are open to the LEAs under the law and regulations. It should not be assumed, however, that any LEAs are, in fact, aware of all the options presented, nor should it be assumed that their decision-making process resembles the processes suggested here. Confronted with an imposing set of laws and regulations, the LEAs seem to engage in a decision process which simplifies the criteria. While the allocation process and the decisions which are made by LEAs are outlined in a series of sequential steps, these decisions are actually made simultaneously in many cases. What emerges clearly from our discussion, however, is that LEAs, choosing to exercise their legal options, have many points of discretion in the allocation of funds to schools and students.

Below, we discuss the processes by which LEAs determine eligible schools, select target schools, and distribute services to target schools. We also discuss how LEAs determine eligible students, select target students, and provide services to target students.

2.1.3.1 Allocation of Funds by the District: Choosing Eligible Schools

The basic statutory requirement governing selection of eligible schools by the LEA is contained in Section 141(a)(1), which provides that school attendance areas must be selected "having high concentrations of children from low-income families." Other provisions of the law, as well as OE regulations, serve to interpret and explicate this most basic requirement. Basically, an LEA is required to select one or several measures of poverty to determine the number of children, aged five to seventeen, from poor families, residing in the LEA as a whole and in each attendance area. Each attendance area with a percentage of poor children at least as high as the average for the district is eligible; alternatively, an LEA can choose to rank schools based on the number rather than the percentage of poor children, deeming those schools eligible which have as high a number of poor children in residence as the average attendance area in the LEA.

This system of eligibility, along with certain exceptions created by statute and regulation, leads to six major areas of LEA discretion.

(1) Choice of Percentage Method, Number Method, or Combination

We noted above that an LEA can choose to rank schools by percentage of poor or by number of poor in an attendance area. The governing set of regulations, contained in 45 C.F.R. 116.17(d)(1974) and Program Guide No. 44, Section 1.1(1968), also indicate that the LEA can, "if necessary for reasons of equity," rank some attendance areas on one basis and some on another.

The potential effect of such LEA discretion is demonstrated by the analysis of the hypothetical (but not improbable) LEA described in Chart 2.2.

CHART 2.2

SCHOOL ELIGIBILITY DATA FOR THREE ATTENDANCE AREAS WITHIN A HYPOTHETICAL LEA

	Local Educational Agency As A Whole	Attendance Area 1	Attendance Area 2	Attendance Area 3	Averages for Attendance Areas
Total Children 5 - 17 In Residence	10,000	6,000	2,000	2,000	3,333
Total Poor Children 5 - 17 In Residence	2,000	1,000	500	500	667
% of Children 5 - 17 Who are Poor	20%	16 2/3%	25%	25%	20%
Attendance Area Eligible By Percentage Method?		NO	YES	YES	67%
Attendance Area Eligible By Number Method?		YES	NO	NO	33%
Attendance Area Eligible By Combination Number and Percentage?		MAXIMUM TWO OUT OF THREE ELIGIBLE			100%=eligible/ maximum of 67% can be targeted.

Of the three attendance areas, Attendance Area 1 has the highest number of poor children in residence, but Area 1 also has a disproportionately high total number of students such that its poor children constitute a small percentage (16.67%) of the total student population. By the percentage method, Attendance Area 1 fails to qualify for Title I funds, since the percentage of poor children in residence falls short of the average (20%) for the LEA as a whole. Attendance Areas 2 and 3 qualify by that measure.

The percentage method is the most commonly employed to choose eligible attendance areas. But the LEA may, "for reasons of equity," base eligibility on the number method; in that case, the eligibility of the schools in the LEA would be exactly reversed. Only Attendance Area 1 would have a greater number of poor students (1,000) than the average for the LEA (667); Attendance Areas 2 and 3 would not qualify.

The LEA depicted in the chart above has yet another option in manipulating the percentage and number methods: it can employ both, ranking some areas on one basis and some on another (see Program Guide No. 44 (1968)). The only restriction to such a procedure is that "the total number of attendance areas accepted as eligible for Title I purposes should not exceed the number of such units that would have been eligible if only one basis, i.e., percentage or average number of children from low-income families, had been used." In our hypothetical example, the percentage method would have yielded two eligible attendance areas, so it would appear that only two of the three attendance areas could be deemed eligible using the combined percentage and number ranking. The Title I statute and regulations give no clear direction for LEA procedure in selecting two of the three attendance areas; it would appear that this hypothetical LEA would have discretion to choose as it wishes.

(2) The Three-Year Hold-Over Option

Choosing between the percentage and the number method to award eligibility status to attendance areas is only one of the sets of procedures by which LEAs can influence which of the attendance areas in their jurisdiction are deemed eligible for Title I. There are four additional procedures as well.

One procedure was introduced by the Education Amendments of 1974, providing that a school attendance area which fails to meet the eligibility criteria but which met such criteria and served students in either of the two preceding fiscal years, shall be deemed eligible. The Congressional intent was to give continuity to Title I programs through sustained eligibility. Assume, with respect to the hypothetical county sketched above that the county wishes to devise a selection process which results in eligibility for all three attendance areas; assume as well that Attendance Area 1 was eligible in either of the two preceding years. The county should use the percentage method of eligibility. Thus, Attendance Areas 2 and 3 are eligible by that standard process, while Attendance Area 1 becomes eligible through the three-year hold-over process. Alternatively, if the county wishes only Attendance Area 1 to be eligible (and Areas 2 and 3 were not eligible in either of the two preceding years), it should employ the number method of eligibility.

(3) The Selection of Poverty Measures

As described in Section 2.1.2, the LEA entitlement from the national level has a well defined and standardized poverty measure. By contrast, when the LEAs apply to the SEAs for funding, they have the freedom to select the poverty measure, or combination of poverty measures, which will define poverty levels for the various school attendance areas. A partial list of poverty measures which LEAs may employ is found in the OE publication, Title I ESEA: Selecting Target Areas, and includes:

- Number of children whose families receive AFDC;
- Number of children from families below poverty level according to the U.S. Census;
- Number of children receiving daily free or reduced price lunch at school;
- School survey;
- Health statistics;
- Housing statistics;
- Employment statistics;
- Or other.

This choice among poverty measures provides the LEAs another point of discretion in determining the eligibility of school attendance areas. If an LEA's goal is to maximize the number of attendance areas deemed eligible, then it chooses a poverty measure constant throughout all attendance areas (if such a measure exists); on the other hand, if it wishes to make only specified attendance areas eligible, it chooses poverty measures which it is aware will yield high number of poor children in the desired (and only in the desired) attendance areas. The LEA can also influence the process by choosing the source from which it collects the data; i.e., it can collect data on free lunches from the principals--in which case the data may be subject to some types of error or manipulation--or it can collect the data from the funding source, with possibly different sources of error. It can use one or more measures, any combination of measures, and apply any weights. The discretion available is, of course, constrained by guidelines and the interpretations of the statute.

(4) Eligibility by Actual Attendance

The Education Amendments of 1974 provided that a Local Education Agency could, at its discretion, deem any school eligible for Title I payments in which "the proportion of children in *actual average daily attendance* from low-income families is substantially the same as the proportion of such children in [an eligible attendance area] of that agency" (see Section 141(a)(1)) (emphasis added).

The Amendments reflect a Congressional concern that in an attendance area in which children of poor families constitute only a small percentage of children *resident* in the area, but in which large numbers of non-poverty children have entered private schools, the attendance area would be deemed ineligible despite the fact that the children of poor families constitute a high percentage of the children in actual attendance. The Amendments enable such a school to be eligible for Title I funds.

(5) The "No Wide Variance" Option

There is a final option sometimes available to LEAs seeking to have attendance areas deemed eligible. This is the so-called "no wide variance" rule, established by 45 C.F.R. 116.17(d):

> In certain cases, the whole of a school district may be regarded as an area having a high concentration of...children (of low income families) and be approved as a project area, but only if there are no wide variances in the concentrations of such children among the several school attendance areas in the school district.

Thus, if an LEA can establish to the satisfaction of its SEA that there are "no wide variances," all attendance areas become eligible.

(6) Targeting Schools

Having developed its list of eligible attendance areas, the LEA must choose which schools it will "target"--that is, fund. The law and regulations impose two major and interrelated constraints on LEAs in choosing which of the eligible schools to fund.

One is the so-called "no-skip" provision, articulated by OE in Program Guide No. 44, Section 4.6, to the effect that the LEA:

> ...should make sure that the needs of children in eligible areas with the highest incidence of poverty have been met before considering the needs of children in eligible areas in which the incidence is much lower. The program in the areas with the highest incidence should be designed to serve a larger proportion of children and to provide them with a greater variety of services than programs in areas with lesser incidences of poverty.

The Lawyers' Committee for Civil Rights Under Law has pointed out in its recent study of Title I* (prepared for the National Institute of Education) that it is unclear whether the regulation is a requirement, or merely directory.

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*Lawyers' Committee for Civil Rights Under Law, Description of Title I ESEA Legal Framework and Preliminary Analysis of LEA Title I Program Requirements, Washington, D.C., 1976, p. 107.

The second, and closely related constraint, is the requirement that every Title I program be "of sufficient size, scope, and quality to give reasonable promise of substantial progress toward meeting the needs of educationally deprived children." Though guidelines suggest that programs be concentrated at a level of spending per Title I pupil which is about half the level of state and local funding per pupil (see Program Guide No. 44, Section 4.7), the provision is advisory only. Thus, if an LEA can argue successfully to its SEA that it can serve all eligible attendance areas with sufficient concentration to meet the (vague) legal standard, the no-skip regulation is moot.

The following example illustrates the fact that the number of pupils to be served will be a key determinant in school targeting.

Assume an initial decision on the number of students to be served at three eligible schools, as illustrated below.

Highest Ranking ◄————————► Lowest Ranking

Available District Funding	Students Targeted: Att. Area 1	Students Targeted: Att. Area 2	Students Targeted: Att. Area 3	$$ Per Student
$600,000	3,000	2,000	1,000	$100

Though all three attendance areas are eligible for Title I funding, serving all 6,000 students selected in the three eligible schools will lead to a level of funding per student which is probably unacceptably low.

Characteristically, the law and regulations offer the LEA confronted with this situation two options. It can:

1. Follow the "no-skip" regulation, and not target the lowest ranked or the two lowest ranked schools, thereby achieving an acceptably high level of concentration per student in the remaining school(s) to be served.

2. Target fewer students at each school and serve all schools. Thus:

Available District Funding	Students Targeted: Attendance Area 1	Students Targeted: Attendance Area 2	Students Targeted: Attendance Area 3	Dollars Per Student
$600,000	1,500	1,000	500	$200

It is probable that the decisions on school and pupil targeting are made simultaneously at the LEA level, given the intimate relationship between the decisions in fulfilling the concentration requirement.

One final area of possible discretion in targeting schools should be noted. The Lawyers' Committee for Civil Rights Under Law has argued that attendance areas eligible for Title I funds under the "three-year" provision can be targeted for funding in preference over higher ranked schools, the "no-skip" provision notwithstanding. See Description of Title I ESEA Legal Framework and Preliminary Analysis of LEA Title I Program Requirements (p. 114).

2.1.3.2 Distributing Services to Targeted Schools

Once the eligibility of schools has been determined and specific schools have been targeted to receive Title I services, LEAs have discretion in the distribution of funds, resources, and services to the targeted schools. The concentration requirements impose constraints on the LEAs. However, the concentration requirements are somewhat vague and ambiguous. The regulations state:

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> Applications for grants...or...payments are to be concentrated on a limited number of projects and applied to a limited number of educationally deprived children so as to give reasonable promise of promoting to a marked degree improvement in the educational attainment, motivation, behavior, or attitudes of children.*

As might be expected, there is considerable variance in the interpretation and implementation of this requirement by states. Thus, LEAs operate with various explicit, formal, and/or inferred instructions. The result is varied allocation of services to schools. If we return to the example illustreated in Chart 2.2, using the percentage poor criterion for the eligibility of schools, schools 2 and 3 are both eligible and each has 500 students whose families are poor. A district may decide that the needs of students in each school are the same and the same proportion of students in each school is needy. (Need is based on educational disadvantage without regard to poverty.) Thus, they would allocate approximately 50% of available resources to each school. However, the district might decide that the "need" is greater in school 2 than in school 3. This could be determined on the basis of the proportion of students with educational disadvantage, on the basis of the degree or intensity of disadvantage (e.g., test scores farther below average), or on the basis of the type of educational disadvantage (e.g., low test scores on reading versus low test scores on math). The result could be that given two schools with exactly the same number of poor children, exactly the same proportion of poor children, and even possibly the same proportion of educationally disadvantaged students, one school is allocated considerably more resources than the other.

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*45 C.F.R. 116.18(e)(1974).

2.1.3.3 Selecting and Targeting Eligible Students

Though attendance areas are selected for eligibility and targeting based on economic criteria, students are selected within targeted schools based on educational deprivation, described by the regulations as:

> ...those children who have need for special educational assistance in order that their level of educational attainment may be raised to that appropriate for children of their age.
> (45 C.F.R. 116.17(f) (1974))

Thus, the LEAs are given a good deal of flexibility to define their own standard of educational disadvantage. Students attending targeted schools and falling below that standard are defined as eligible.

When it comes to targeting students--actually selecting those to be served--the LEAs, schools, and teachers are required to begin with the "worst first." Students are ranked according to amount of educational disadvantage and targeting proceeds down that ranking. They cannot target students who are performing better than their grade level, or performing less than one year behind grade level. Such decisions influence the composition of the Title I student group by race and socioeconomic background.

2.1.3.4 Providing Services to Targeted Students

The final step in the allocation process is the determination of the content and volume of educational services to be provided to targeted students. The LEA, school principals, and program staff can make decisions--constrained somewhat by concentration requirements, and founded on needs assessments--which result in considerable variance in the amount of resources used in the provision of services. It could be decided, for example, that a student or group of students require reading instruction which takes place one hour a day, five days a week, throughout the school year. Conversely, for another student or group of students it might be decided that health services are required that amount to medical examinations and treatment three times a year. The first obviously requires a much larger allocation of resources than the second.

2.1.3.5 Application of Requirements to Desegregating Districts

One additional qualification must be added to this description of the requirements, constraints, and discretion operating on the allocation process. Title I of ESEA does not specifically address the question of desegregating schools. OE guidelines specify that Title I funds cannot be used to prolong "the racial, social, or linguistic isolation of the children to be served..." (Program Guide No. 44 at Section 5.5). On the other hand, the guidelines specify that Title I funds cannot be used to promote the specific requirements of a desegregation plan (Program Guide No. 64).

A desegregation plan can profoundly alter the student composition of school attendance areas. While the law and regulations address some of these changes, there are nevertheless situations which the statutory scheme fails to address.

Two features of the law seem well suited for accommodating the special educational needs of low-income children in a desegregating area:

- The "actual attendance" provision is discussed above. If large numbers of non-poverty students are dropping out of the public school system in opposition to a desegregation plan, the attendance area with a resulting high composition of poor students in actual attendance has a chance of qualifying for Title I eligibility based on its real concentration of poor students.

- The "no wide variance" provision is discussed above also. Desegregation plans would tend to

> disperse children from low-income families more evenly throughout the local educational agency; the "no wide variance" provision recognizes that a local educational agency may wish to declare all schools eligible for this reason.

It does seem apparent that under desegregation the definitions of attendance areas and/or student population can be difficult and thus subject to discretion. However, the constraints which are imposed preclude ignoring schools or attendance areas in the allocation process. They also preclude "following-the-child" as an exception to the allocation formulae. Allocating funds or services to eligible students or targeted students without regard to characteristics of the target area population or the actual attendance population of the schools they attend is not legal, nor is "follow-the-child." Though the "follow-the-child" system has been debated in Congress, and was once implemented by regulation, it has never been adopted legislatively, and the regulation which authorized it has been countermanded (see Program Guide 64). It was just eliminated once again from educational legislation of 1976, S.B. 2657.

2.1.3.6 Summary

As noted in the introduction and as discussed throughout this section on allocation laws, regulations, criteria, and guidelines, current allocation policy is implemented through a very complex process. Given its complexity and scope, a thorough discussion of all its aspects of the process would be impossible in a document such as this. What we have described, therefore, are the most critical elements in that process--those elements which have far reaching implications and which are subject to varying interpretations. These are also the issues which will have either a direct or indirect influence on the Demonstration research which will be described in the remainder of this report.

2.2 Policy Options

The discussions in Sections 2.0 and 2.1 above suggest that the development of Title I of ESEA is not yet complete. They also suggest that the next chapter in the evolution of Title I will be written by the 94th Congress. With this goal in mind, various members of the House and Senate are now considering new proposals from a number of sources. This research is a major part of that development. The analysis of empirical data which will follow this report must provide evidence useful to the assessment of those proposals. Given the scope and objectives of this research, we cannot address all of the issues nor assess all of the proposals. It is useful, however, to outline the range of questions and issues surrounding the entire allocation process in order to put this Demonstration research into context.

Chart 2.1 above outlined the stages in the allocation process. A stage is defined as a combination of level of decision-making authority and type of decision or action. Levels I and II of that chart, which address questions relating to inter-district allocation, are not the focus of this research. However, decisions made at these two levels determine the amount of resources which LEAs have to allocate among schools and students within their boundaries, and, therefore, have a significant effect on intra-district allocation. The extent of these inter-district decisions, including the amount of resources an LEA receives relative to other districts, relative to the number of poor students in the district, relative to the number of educationally disadvantaged students in the district, and relative to the overall magnitude of the LEA, are therefore discussed and are the subject of Section 3.1. Intra-district allocation, which includes Levels III and IV of Chart 2.1, is the subject of Sections 2.6 through 2.9.

Before turning to these discussions, however, we will very briefly describe some problems at each stage of the allocation process, issues and questions related to those problems, and proposals to amend ESEA Title I related to each stage. This is done primarily with a descriptive chart (Chart 2.3) and a few comments on that chart.

Chart 2.3 repeats the twelve stages of the allocation process outlined in Chart 2.1. In addition, it outlines problems associated with each stage in column three, issues and questions related to these problems in column four, and proposals to amend that stage in column five.

In the problem column, the first two stages are entered as "moot." Because no states have been considered ineligible or have not been targeted, any opportunity the law provides for such compliance decisions seems irrelevant. The only proposals to alter the allocation process at this level would be unrelated to these first two stages. The Ford "general aid" bill, for example, would alter proportional distribution among states by eliminating all specific programs and current Titles of ESEA in favor of revenue sharing type grants to the states. The Kennedy-Javits expansion of Title I could also affect the proportional distribution. This bill dramatically expands the funds available for Title I.

Below the first level, each cell outlines a variety of problems or issues and questions or proposals to amend the legislation. It is not the purpose of this report to discuss these in detail. In fact, the entries in those cells should not be considered comprehensive. Instead they are illustrative and suggestive. They are outlined here to provide the reader with the context of legislative debate within which the research project reported herein will address issues at Levels III and IV. Thus, some comments on Levels III and IV in the chart are required.

Section 2.1.2 demonstrates the complexity of the laws and regulations currently mandating the intra-district allocation of Title I ESEA funds and resources. The problems, issues, and questions described at these levels in the chart are thus

CHART 2.3

STAGES IN THE ALLOCATION PROCESS FOR TITLE I ESEA FUNDS ALLOCATION INDICATING CURRENT PROBLEMS, ISSUES AND QUESTIONS, AND PROPOSALS TO AMEND THE LEGISLATION

	DECISION LEVEL IN THE ALLOCATION PROCESS AND LEVEL OF ADMINISTRATIVE RESPONSIBILITY (1)	TYPE OF DECISION AND ACTION (2)	Problems (3)	ISSUES AND QUESTIONS (4)	PROPOSALS TO AMEND (5)	STAGE
INTER-DISTRICT ALLOCATION	DECISIONS AND ACTIONS OF THE U.S. COMMISSIONER ALLOCATING RESOURCES TO STATES AND TO COUNTIES LEVEL I	ELIGIBILITY	Moot	NONE	Ford "General Aid" bill would alter formulae.	1
		TARGETING	Moot	NONE	Ford "General Aid" bill would alter formulae.	2
		PROPORTIONAL DISTRIBUTION OF RESOURCES	Poor states gain because of population, lose because of average, per pupil expenditure	Are there more equitable distribution formulae? Based on poverty? Based on Achievement Test Data? Are there more effective allocation strategies to encourage states to approve education?	Ford "General Aid" bill would alter formulae? Kennedy-Javits would expand the funds available for Title I.	3
	DECISIONS AND ACTIONS OF SEAs ALLOCATING RESOURCES TO LEAs LEVEL II	ELIGIBILITY	National poverty definitions may be insensitive to local variations due to events, urban-rural status, economy, others	Should eligibility be based on other poverty measures? Which is most equitable? Should civil rights enforcement be more forcefully linked to eligibility?	Ford "General Aid" bill would eliminate restrictions. Quie bill would substitute achievement criteria for poverty.	4
		TARGETING	National poverty definitions may be insensitive to local variations due to events, urban-rural status, economy, others	Should eligibility be based on other poverty measures? Which is most equitable? Should civil rights enforcement be more forcefully linked to eligibility?	Ford "General Aid" bill would eliminate restrictions. Quie bill would substitute achievement criteria for poverty.	5
		PROPORTIONAL DISTRIBUTION OF RESOURCES	Little accountability for the discretionary application of vague and ambiguous regulations	Should sub-county allocation be more precisely regulated and more carefully monitored? Should there be less discretion? More discretion?	Ford "General Aid" bill would eliminate restrictions. Quie bill would substitute achievement criteria for poverty.	6
INTRA-DISTRICT ALLOCATION	DECISIONS AND ACTION OF LEAs ALLOCATING RESOURCES TO SCHOOLS LEVEL III	ELIGIBILITY	Complicated regulations, inconsistent data and measurements, problems associated with actual attendance versus target area population, desegregation, no wide variance in poverty concentration, continuity of services	Should regulations be more uniform? Should regulations be more simple ? Should the school stratum in the allocation scheme by by-passed? How should "greatest need" be defined?	Quie bill would substitute achievement criteria for poverty. Proposals would permit by-passing schools.	7
		TARGETING	Complicated regulations, inconsistent data and measurements, problems associated with actual attendance versus target area population, desegregation, no wide variance in poverty concentration, continuity of services, problems associated with comparability, concentration of programs, "Following the Child", Definition of greatest need	Should regulations be more uniform? Should regulations be more simpler? Should the school stratum in allocation scheme be by-passed? How should "greatest need" be defined?	Quie bill would substitute achievement criteria for poverty. Dole amendment would permit following the child. Proposals would permit by-passing schools.	8
		PROPORTIONAL DISTRIBUTION OF RESOURCES	Matching needs of child with organizational unit of programs, concentration of services	Should programs be more equitably distributed? If so, by what definition? Should services be more concentrated in schools? Should services be more comprehensive in schools?	Various proposals would mandate programs and instructional strategies e.g., individualized instruction.	9
	DECISIONS AND ACTIONS OF SCHOOL AND PROGRAM STAFF ALLOCATING RESOURCES TO STUDENTS LEVEL IV	ELIGIBILITY	Test data inadequate Teacher judgement subject to bias	Should definitions vary? Should definitions include a gap between achievement and potential?	Quie bill would use criterion referenced tests	10
		TARGETING	Test data inadequate Teacher judgement subject to bias	Should definitions vary? Should definitions include a gap between achievement and potential? How should "greatest need" be defined?	Quie bill would use criterion referenced tests	11
		PROPORTIONAL DISTRIBUTION OF RESOURCES	Individualization of instruction, matching services with needs of child, supplementing effectively - avoiding both spirit and letter of supplanting restrictions	How should program be integrated with basic instruction? What kind and how much instruction is effective?	Various proposals would mandate programs and instructional strategies e.g., individualized instruction.	1

complicated. Many of the issues and questions raised in column four cannot be answered by research. Rather, policy choices must be made on other bases--philosophical, pragmatic, political. What the research should do is to provide more precise evidence with which to define the issues and thus to provide intermediate answers to these questions. For example, many of the issues and questions deal with distributive equity. The research will provide more precise evidence of the following kind. It will allow one to ask under different allocation policies what kinds and how much instruction is reaching students who are poor, who are black, who can't read, who can't do math, or who have all of these characteristics. This evidence will address issues at stages 7 through 12. These are the focus of this research. The study will allow one to ask whether under one allocation policy the poorest students are being served and under another the students on the borderline of poverty are being served. This is particularly relevant to questions at stages 7, 8, 10 and 11. The study will develop a variety of (relatively precise) definitions of student characteristics to facilitate debate on who gets served, what kinds of services they get, and how much they get. This is particularly useful to issues at stages 9 and 12. These will be the most important contributions the research will make to the debate in the 94th Congress of the United States.

The alternatives being tried by the 13 districts in the NIE Demonstration Project do not cover all possible alternatives (column five at stages 7 through 12). The districts are experimenting, however, with a wide variety of options at each stage of the allocation process. In addition, they are instituting widely varied magnitudes of change. Thus, they allow us to assess key aspects of all important proposals to amend the governing legislation and regulations on allocation.

2.3 The 1974 Education Amendments, the NIE Research Plan, and the Demonstration Provisions

The 1974 Amendments (P.L. 93-380) to the Elementary and Secondary Education Act of 1965 resulted from several criticisms pertaining to Title I compensatory education programs. The most frequent criticisms have been the following:

- School districts that are struggling financially view Title I as "general aid" and spend it accordingly, failing to provide truly compensatory services;
- Monitoring by State Educational Agencies and the national Title I office is inadequate;
- Districts attempt to serve too many students at once and resources are spread too thin;
- Title I resources merely substitute for state compensatory funds that would otherwise be made available;
- Guidelines and regulations are too restrictive;
- Most of the compensatory programs themselves don't work, and the research necessary to find out which ones are successful has not been performed; and
- The correlation between poverty and educational performance has been misinterpreted and misapplied.

Many of the concerns most important for allocation policy were voiced in an influential critique of Title I by Ruby Martin and Phyllis McClure.* This critique, charging violations of the law, led to the formation of a high-level Title I Task Force and its report, New Directions for Compensatory Education.** The report was particularly concerned with that aspect of allocation policy governing the distribution or concentration of resources (Stages 8, 9, 11, and 12 of Chart 2.1 above). Among the report's six "urgent" recommendations was a minimum $150 expenditure per Title I eligible student. It also suggested that a concentration of about $300 per student might be necessary to provide "appreciable impact." (This was also the conclusion of an Office of Education White Paper.*)

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*Ruby Martin and Phyllis McClure, Title I of ESEA: Is It Helping Poor Children? (Washington, DC: Washington Research Project, NAACP Legal Defense and Educational Fund, 1970).

**New Directions for Compensatory Education, Report of the Title I Task Force to the Secretary of Health, Education and Welfare (January 1971). This report was originally confidential, but is currently accessible under the Freedom of Information Act.

Very similar concerns have recently been reported to Congress by the Comptroller General of the United States.** This report outlines some findings that are particularly relevant for this study. These include the following:

- Some local agencies do not conduct and adequately document comprehensive assessments of the educationally deprived children's needs.
- Generally, the local agencies' bases for selecting program participants are not adequately documented. Some are not serving the most educationally deprived students, and several are not retaining students in the program until they reach grade level.
- Some local agencies could improve their Title I reading services by concentrating them on educationally deprived children or by providing adequate inservice training to Title I teachers and aides.

The Education Amendments of 1974, Public Law 93-380, authorizing the study presented in this report, reflected the Title I Task Force's concern with the concentration of services within schools, as well as the Comptroller General's concern with the targeting of services for the educationally deprived. The Amendments particularly reflected a widespread concern of administrators that the poverty criterion for distribution of funds to districts might be inferior to a criterion based on educational achievement.* In the Educational Amendments of 1974, Congress authorized the National Institute of Education to conduct a major study of compensatory education.** Specifically, NIE was mandated to:

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*Office of the Assistant Secretary for Planning and Evaluation, The Effectiveness of Compensatory Education: Summary and Review of Evidence (Washington, DC: U.S. Department of Health, Education and Welfare, April 20, 1972).

**Report to the Congress by the Comptroller General of the United States, Assessment of Reading Activities Funded Under the Federal Program of Aid for Educationally Deprived Children (Washington, DC: General Accounting Office, December 12, 1975).

- Examine the fundamental purpose and effectiveness of compensatory education programs;
- Analyze ways of identifying children in greatest need of compensatory education;
- Consider alternative ways of meeting these children's needs; and
- Consider the feasibility, costs and consequences of alternative ways of distributing compensatory education funds.

In response to this mandate, the Compensatory Education Group, Educational Equity Division at NIE has planned studies in three substantive areas: Student Development, Fund Allocation, and Program Administration.*** The Demonstration Study is in the area of Fund Allocation.

The Demonstration Studies themselves are a direct response to two segments of the study mandated in the Education Amendments of 1974 (P.L. 93-380). The first Section, 821(a) (5), states that the overall study shall include:

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*In a national survey of school administrators in May 1966, approximately 70% stated that Title I funds should not be allocated on the basis of poverty. (Stephen Bailey and Edith Mosher, ESEA: The Office of Education Administers a Law (Syracuse: Syracuse University Press, 1968).

**Public Law 93-380, Section 821.

***More extensive descriptions of the overall NIE Study are contained in Compensatory Education Group, Educational Equity Division, Research Plan: Compensatory Education Study (Washington, D.C.: National Institute of Education, 16 December 1974), Interim Report to Congress No. 1: Compensatory Education Study (Washington, D.C.: National Institute of Education, August 1975), and Interim Report to Congress (31 December 1976).

> ...not more than 20 experimental programs, which shall be reasonably geographically representative, to be administered by the Institute, in cases where the Institute determines that such experimental programs are necessary to carry out the purposes of Clause (1) through (4), and the Commissioner of Education is authorized, notwithstanding any provision of Title I of the Elementary and Secondary Education Act of 1965, at the request of the Institute, to approve the use of grants which educational agencies are eligible to receive under such Title I (in cases where the agency eligible for such grant agrees to such use) in order to carry out such experimental programs.

The second reference is contained in Section 150 of the Statute, and states that:

> For any fiscal year not more than 20 local educational agencies selected for the purpose of 821(a)(5) of the Educational Amendments of 1974 may elect, with the approval of the district-wide parent advisory council which is required to be established under Section 141(a)(14) of this title, to allocate funds received from payments under this title on the basis of a method or combination of methods other than the method provided under Section 141(2)(14)(A). Any method selected pursuant to this section shall be so designed and administered as to be free from racial or cultural discrimination.

The wording of Statutory Provisions 821 and 150, as well as the concerns embodied in the history of those provisions, gave NIE very clear direction as to the manner in which to conduct the experimental projects. They were to be allocation studies in which districts would "elect" to allocate their funds in a manner "other than the method provided under Section 141(a)(1)(A)." They would speak to the concerns outlined in "clauses (1) through (4)" of Section 821 (listed in Chapter 1)--particularly the identification of children in "need", the effectiveness of methods for meeting this need, and an exploration of alternative methods for distributing funds to meet these needs. They would require the approval of each district-wide Parent Advisory Council (PAC). Finally, the method of allocation elected by each district would, at the request of the Institute, be approved by the Commissioner "notwithstanding any provision of Title I of the Elementary and Secondary Act of 1965"--in other words, compliance with certain statutory and regulatory provisions of Title I would be waived.

Thirteen school districts are currently implementing demonstrations. Before a detailed discussion of the 13 districts themselves and the changes in intra-district allocation policy which they have chosen, it is necessary to describe the process by which the districts became participants, especially the non-random nature of the selection process.

NIE distributed a Request For Proposal (RFP) to all states asking districts to suggest tentative policy options and descriptions of procedures for a planning year. The states were asked to distribute these RFPs to districts, to accept proposals from districts, and to select up to two district proposals for submission to NIE. NIE reviewed proposals on the basis of three criteria: (1) quality, (2) geographical representation, (3) Parent Advisory Council approval. NIE awarded one-year planning contracts to sixteen districts in thirteen states. Thus, districts were not only selected but they first had to elect to submit a proposal.

While the selection process was not designed to include a random or fully representative group of school districts, the outcome nevertheless was that a diverse group of school districts were included. These districts vary in size, in the urban or rural character of the communities they encompass, in the proportions of their poor and minority group populations, and in the regions in which they are located. In addition to their diversity, a comparison of their demographic characteristics with those of a probability sample of districts indicates that there are very few differences. Thus, they are not unusual with respect to the populations residing in their boundaries.* Thus, it is possible to make inferences about the implications of the allocation policies being studied for a wide range of districts in the United States.

Of the sixteen districts which participated in the planning year, thirteen chose to submit implementation plans.** These plans have been approved by NIE, waivers of Title I regulations have been granted by the U.S. Commissioner of Education, and they have begun to exercise new policy options during the 1976-1977 school year. The thirteen districts are the following:

Adams County #12, Colorado
Alum Rock, California
Berkeley County, West Virginia
Boston, Massachusetts
Charlotte/Mecklenburg,
  North Carolina
Harrison County, West Virginia
Houston, Texas
Mesa, Arizona
Newport, Rhode Island
Racine, Wisconsin
Santa Fe, New Mexico
Winston-Salem/Forsyth,
  North Carolina
Yonkers, New York

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*For a more detailed discussion of these demographic comparisons see Section 2.4.1 of this report, see Barbara Hubbell, Glen Takata, and Michael Hennessy, *A Comparison of Demographic Characteristics of Demonstration Title I School Districts with National Estimates* (Cambridge, Mass.: Abt Associates Inc., 1976).

**The three districts that chose not to continue are Freeport, New York; Oklahoma City, Oklahoma; and Wichita, Kansas.

2.4 Overview of the Thirteen Demonstration Districts

2.4.1 Demographic Characteristics*

As noted above, the Demonstration districts are not a randomly selected sample of districts. Rather, they are a select group, in part because of the voluntary nature of their participation, and in part because of the approval process employed by the SEAs and by NIE to insure the feasibility and policy relevance of their plans. The fact that many of these districts have recently undergone court-ordered or voluntary desegregation may make these districts somewhat atypical. There may be other ways in which they may be atypical as well.

In an attempt to determine the representativeness of the Demonstration districts to Title I districts in general, a comparison was made between the demographic characteristics of the 13 districts and a national representative sample of approximately 100 Title I districts (National Survey - NS).

Table 2.4.1.1 is a cross-classification of the regional and enrollment strata from which the NS sample districts were selected. Located in the appropriate cells are the 13 Demonstration districts. As can be seen from this table, all four geographic regions are represented in the sample of Demonstration districts. This reflects legislative intent and the purposeful selection of districts by NIE.

On the other hand, all of the Demonstration districts fall within the middle and largest of the enrollment strata; none is in the smallest stratum. This imbalance probably reflects one or more of the following:

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*This section summarizes some of the results of a more detailed analysis provided in an earlier report. See Barbara Hubbell, Glen Takata, and Michael Hennessy, ibid.

TABLE 2.4.1.1

DEMONSTRATION DISTRICTS CLASSIFIED BY REGION AND ENROLLMENT STRATA

ENROLLMENT	NORTHEAST	SOUTH	NORTH CENTRAL	WEST
Lowest third <4,359 students				
Middle third 4,359-17,628 students	Newport, Rhode Island	Berkeley County, West Virginia Harrison County, West Virginia		Santa Fe, New Mexico
Highest third >17,628 students	Yonkers, New York Boston, Massachusetts	Houston, Texas Winston-Salem, No. Carolina Charlotte, No. Carolina	Racine, Wisconsin	Adams County, Colorado Mesa, Arizona Alum Rock, California

- Allocation policies are especially complex in large sites with several schools. Concentration decisions may be simpler in districts with three to four schools among which to distribute funds.

- In smaller sites, there are not as likely to be poverty pockets; poor children may be evenly distributed throughout the district and districts may use the "no wide variance provision" of the Title I regulations to serve all schools under present regulations.

- Small districts generally do not have the staff or technical expertise available to respond to such an RFP or to participate in program design.

While the generalizability of the results appear too restricted by the limitation of district selection to two enrollment strata, the Demonstration districts probably do represent the group of districts chafing most under present regulations. The findings become then highly relevant in terms of the overall purpose of the Demonstration project in terms of policy decisions.

Demographic comparison between Demonstration and NS districts is not limited to geographic location and enrollment strata. Table 2.4.1.2 is a summary presentation of the overall comparability of the Demonstration and the NS distributions on a variety of other variables selected from the 1970 Census Fourth Count School District Data.

For purposes of this summary comparison, we have used a discrepancy score statistic to measure the difference between each of the Demonstration districts' distribution of

TABLE 2.4.1.2

DEMONSTRATION DISTRICTS WITH DISCREPANCY SCORES ≥ .15 ON EACH OF THE DEMOGRAPHIC VARIABLES OF INTEREST BY SCHOOL DISTRICT

VARIABLE	Adams Co. #12	Alum Rock	Berkeley Co.	Boston	Charlotte	Harrison Co.	Houston	Mesa	Newport	Racine	Santa Fe	Winston-Salem	Yonkers	Total Number of Discrepancy Scores ≥ .15
Housing Unit Relocation	X													1
Birth Place of District Resident	X							X	X					3
Family Type				X										1
Family Types of Population Under 18 Years of Age														0
Population 3 Years & Over By School Type				X									X	2
Enrollment By School Type & Grade Level				X	X					X		X	X	5
Adult Education Completed	X													1
Occupational Distribution									X		X			2
Adult Labor Force By Age									X					1
Adult Labor Force By Sex														0
Adult Unemployment By Sex														0
Foreign Birthplace														0
Language Usage		X									X		X	3
Spanish Descent & Heritage*														-
Family Income													X	1
Poverty Ratio													X	1
Families By Poverty Level & Children's Age														0
Poverty Income Sources*														-
Age Distribution														0
Sex Distribution														0
Total Number of Discrepancy Scores ≥ .15	3	1	0	3	1	0	0	1	3	1	2	1	5	21

*No Discrepancy Score Analysis possible

scores and the overall NS distribution of scores.* We have arbitrarily chosen a cut-off value of .15 to determine whether a district's discrepancy score suggests a substantially different distribution between the district in question and the NS sample. The non-random nature of the districts makes it impossible to tell how large a discrepancy score must be, before it may be considered substantively important. We have chosen this particular cut-off point because it seems to separate the outliers from the remaining Demonstration districts. Table 2.4.1.2 summarizes the results of the discrepancy analysis when the .15 cut-off value is applied and presents, for each variable in our analysis, the districts which meet or exceed this discrepancy value.

Table 2.4.1.2 can be interpreted from a variety of perspectives. First of all, each cluster of variables can be examined to see whether Demonstration districts tend to differ from the NS districts on that group of variables. For example, Boston and Yonkers deviate substantially from the NS sample on two out of three school-related variables. This suggests that these two districts have something in common which differentiates them from the national sample of districts, in this case

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*The discrepancy score is a weighted sum of squares of the difference between each school district's proportion of each category and the mean NS proportions. Specifically,

$$\text{Discrepancy Score} = \frac{{}^{k}(P_o - P_e)^2}{P_e}$$

where P_o is the proportion for the Demonstration project
where P_e is the proportions for NS districts
where k is the number of categories of each variable

The discrepancy score is zero when the set of proportions for a Demonstration district is the same as the set of mean proportions for the NS districts. The magnitude of the scores increases as the Demonstration proportions become dissimilar from the NS mean proportions. We have utilized this proportional based measure in place of the more conventional X^2 because this discrepancy score effectively controls for district size.

the large proportions of persons enrolled in parochial schools. Yonkers tends to differ from the NS sample with respect to measures of income. Newport also appears to differ from the NS sample on two occupational structure variables. Newport's labor force is young in comparison to the NS sample and is characterized by relatively large proportions of both professional and service workers.

Interpretation of the table can also proceed from the perspective of individual variables instead of groups of variables. Five Demonstration districts differ markedly from the NS sample on the variable labelled "enrollment by school type by grade level." Although the sheer number of categories for this variable may have contributed to the relatively high discrepancy scores on this measure, there are differences which are worthy of mention. Boston, Racine, and Yonkers have relatively greater proportions of persons enrolled in non-public schools, whereas Charlotte and Winston-Salem have relatively smaller proportions enrolled in such schools, especially at the elementary and high school levels.

There are two other variables which have three deviant Demonstration districts each. Adams County #12, Newport, and Mesa all have relatively large percentages of persons who were not born in their state of residence but in another state. Alum Rock, Santa Fe, and Yonkers are also outliers on the language useage variable. All three districts have relatively large proportions of non-English-speaking persons, with Alum Rock and Santa Fe being the most deviant in this respect.

Finally, we can examine the summary table from the perspective of the individual Demonstration districts. Yonkers, for example, has discrepancy scores above the cut-off value on five out of the possible 18 variables. Boston, Adams County #12, and Newport have large discrepancy scores on three out of the 18. On the other hand, Berkeley, Harrison County, and Houston have no substantial discrepancy scores on any of the variables reported here.

When comparisons are made between each of the Demonstration districts and a similarly stratified subgroup of NS districts, the discrepancies become fewer and less marked. Given the process of selecting the 13 Demonstration districts, such stratification of the NS group is both appropriate and relevant.

It appears then that the Demonstration districts are a relatively heterogeneous group with respect to demographic characteristics. There are few large or systematic differences between these districts and the probability sample of Title I districts included in the National Survey. The differences which do exist are either reduced or eliminated when comparisons are made between the Demonstration districts and an appropriately stratified sbugroup of NS districts. Therefore, to the extent that the larger population of Title I elementary districts in the contiguous states is represented in the NS, the Demonstration districts show no marked deviation from the population.

2.4.2 Rationale for Participation

In general, the 13 Demonstration districts proposed to switch from a poverty to an achievement criterion in determining school eligibility. In most cases, they also proposed to serve more schools and to serve more students overall. (In many cases, this meant a reduction in the number of students served within each school, i.e., deconcentration.)

Districts offered a variety of rationales for these allocation changes. Among the reasons offered were:

- Deprivation of other equally disadvantaged students.

Using economic-based regulations to determine school eligibility may deny needed services to the equally educationally disadvantaged students in non-poor schools. This problem is compounded with desegregation, which generally either scatters low income, low achieving students evenly across the system or pairs them with highly affluent children for school population mixes. In either case, educationally disadvantaged children can be deprived of services if their schools become "non-poor."

- Lack of reliability/validity of poverty measures.
    - Poverty estimates based on 1970 census data are outmoded, in this the second half of the decade.
    - Poverty estimates based on AFDC counts may be inaccurate; in addition, application for welfare payments varies widely, especially across persons of different cultures.
    - Free lunch counts are very much a function of principals' attitutdes toward and vigorous pursuit of participants for such programs.
    - Other poverty criteria are equally subject to reliability and/or validity problems.
- Using achievement as a school eligibility criterion is consistent with using achievement for student selection, monitoring, and evaluation.

Identifying schools and students in greatest educational need allows one to design, monitor, and evaluate programs in a consistent, coherent manner.

- Using achievement offers an opportunity for a more efficient use of LEA resources.
- Achievement surveys to identify schools also serve to identify individual students according to need. Thus, costly multiple surveys are abandoned. In addition, the likelihood of identifying all academically needy children is increased.
- Use of achievement criteria and/or deconcentration gives local school administrators more control. Districts can allocate funds based on their unique needs for alleviating educational disadvantage.
- Use of achievement criteria and/or deconcentration offers an opportunity to increase community support for the program. Use of achievement criteria and/or deconcentration may cause Title I funds to be more evenly spread across ethnic groups. Further, by reaching the educationally disadvantaged in a larger number of schools, project visibility will increase and thereby enhance support.

2.5 Federal Government to State to LEA Allocation Results in the 13 LEAs

In Section 2.1 above, we discussed the laws, regulations, and guidelines relating to the allocation of ESEA Title I funds from the federal government to states and from states to LEAs. We outlined constraints and discretion at each level for each type of decision in the process. In this section, we discuss the actual allocations to the 13 LEAs in the Title I Compensatory Education Demonstration which result both from those constraints and from the discretionary decisions made. Thus, we analyze the results of stages 1 through 6 in the allocation process. Chart 2.5.1 represents the description of those six stages.

The purpose of the analysis presented in this section is not to explain comprehensively and precisely the first two levels of the allocation process--from federal government to state and from state to LEAs. Instead, the purpose is to assess the relative amount of resources made available to the 13 participating LEAs which they may then allocate to schools and students. Some districts are allocating four to five times as many dollars per pupil as other districts. This is a crucial consideration in the analysis of intra-district allocation. How LEAs allocate to schools and students is constrained by how much they have to allocate.

While the discussion in this section relates to allocations to the LEAs for the 1975-76 school year, it generally pertains to the first year of implementation of the Demonstration (1976-77), as well. Since these two levels of the inter-district allocation process are unaffected by the waivers granted under the Demonstration, any changes which occur may be attributed to annual adjustments to the allocations. While exact dollar figures are not currently available for 1976-77, the relative position of the LEAs on the various measures described in this section is expected to remain constant over this time period.

CHART 2.5.1

STAGES IN THE ALLOCATION PROCESS FOR TITLE I ESEA FUNDS DISTRIBUTION: INTER-DISTRICT ALLOCATION

Decision Level in the Allocation Process and Level of Administrative Responsibility	TYPE OF DECISION AND ACTION
Decisions and Actions of the U.S. Commissioner Allocating Resources to States and to Counties	Eligibility of States for Funds
	Targeting of Funds to Eligible SEAs (Counties)
	Proportional Distribution of Resources to States and Counties
Decisions and Actions of SEAs Allocating Resources to LEAs	Eligibility of LEAs Based on Distribution of Poor Students
	Targeting Eligible LEAs for Grants Based on Applications
	Proportional Distribution of Resources to Counties and Sub-counties. Redistribution of Excess Funds

It is not possible to obtain exactly comparable data for all 13 LEAs in the Demonstration. This is partly the result of the fact that some of them are county LEAs for which most data are available, while others are sub-county LEAs for which only some data are available. Perhaps more important, though, is the fact that data collection activities required for making allocation decisions are often the responsibility of individual LEAs. The procedures employed vary greatly and the measurement of much of the essential information is subject to unknown error. For example, the manner in which students from families receiving AFDC are counted varies widely across LEAs. Thus, in order to provide comparable estimates of resources available to the 13 participating LEAs, we have developed hypothetical allocation formulae with which to compare them.

The description in Section 2.1 indicated that there were four components to the formula for disbursement of ESEA Title I funds by the U.S. Commissioner of Education, each of which varied by state and LEA. These are repeated here:

P = number of children of school age from poor families, defined by U.S. Census (Orshansky Index)

AFDC = .67 (number of children of school age from families receiving AFDC payments above poverty)

ND = number of children of school age in institutions for the neglected and delinquent as well as in other public institutions and foster homes.

SPPP = state average per pupil expenditure

There is an additional element which varies annually according to the appropriation made by the U.S. Congress.

The formula in two stages is as follows:

STEP 1: Entitlement = (P + AFDC + ND) x .4 (SPPP)
1st multiplier 2nd multiplier

STEP 2: Allocation = Entitlement x CA

where P, AFDC, ND, and SPPP are defined as above and CA represents the Congressional appropriation as a proportion of the entitlement.

Certain qualifiers should be added to this description of the allocation formula. First, whether or not the AFDC component is included depends on whether AFDC payments in a given state are sufficient in and of themselves to bring a family above the poverty level. Second, if state average per pupil expenditure is below 80% of the national average or above 120% of the national average, then 80% of the national average is substituted for the state average in the former case, and in the latter, 120% of the national average is substituted. Finally, the actual Congressional appropriation for FY 1976 is 41.6%. Thus, allocations amounted to 41.6% of entitlements. (For FY 1977, the appropriation reduces the entitlement by .39.)

As illustrated above, the allocation formula has two multipliers: number of children (3 components) and state per pupil expenditure (1 component). Columns 1 through 3 of Table 2.5.1 indicate the estimated components of the first multiplier for each of the 13 LEAs in the Demonstration, with the sum of the components in column 4. Column 5 of the table presents the second multiplier: the state per pupil expenditure. Finally, column 6 presents for each LEA the estimated Title I allocation for 1975-76, which is the product of columns 4 and 5.

It must be reemphasized that the numbers in Table 2.5.1 are not exact figures for the majority of our districts. The

TABLE 2.5.1

ESTIMATES OF TITLE I ELIGIBILITY COUNTS AND THE ALLOCATIONS ACCORDING TO U.S. COMMISSIONER OF EDUCATION FORMULA FOR THIRTEEN LEAs PARTICIPATING IN THE NIE ESEA TITLE I DEMONSTRATION

1975-1976

Local Education Agency (LEA)	Components of First Multiplier				Second Multiplier	
	Children In Families Below Poverty Line: U.S. Census (1)	Children In Families Receiving AFDC** (2)	Children Eligible For Other Reasons*** (3)	Sum Eligible By Formula (4)	.4 x .416 x State Average Per Pupil Expenditure (5)	ESTIMATED FORMULA ALLOCATION (4) x (5) (6)
Adams County #12 Colorado*	1,036 (91%)	65 (06%)	38 (03%)	1,139	$178.45	$ 203,254.55
Alum Rock,* California	2,850 (76%)	685 (18%)	219 (06%)	3,754	$184.57	$ 692,875.78
Berkeley County, West Virginia	1,667 (96%)	0 (0%)	74 (04%)	1,741	$151.85†	$ 264,370.85
Boston, Massachusetts	27,975 (58%)	19,255 (40%)	1,079 (02%)	48,309	$192.57	$9,302,864.13
Charlotte, North Carolina	14,557 (96%)	5 (0%)	563 (04%)	15,123	$151.85†	$2,296,427.55
Harrison County, West Virginia	3,112 (98%)	0 (0%)	71 (02%)	3,183	$151.85†	$ 483,338.55
Houston,**** Texas	48,987 (99%)	0 (0%)	421 (01%)	49,408	$151.85†	$7,502,604.81
Mesa,* Arizona	2,038 (96%)	0 (0%)	93 (04%)	2,131	$158.14	$ 336,996.34
Newport,* Rhode Island	1,070 (84%)	167 (13%)	31 (02%)	1,268	$217.29	$ 275,523.72
Racine, Wisconsin	3,578 (63%)	1,869 (33%)	231 (04%)	5,678	$198.65	$1,127,934.70
Santa Fe,* New Mexico	3,421 (99%)	0 (0%)	32 (01%)	3,453	$152.16	$ 525,408.48
Winston-Salem, North Carolina	8,766 (94%)	0 (0%)	541 (06%)	9,307	$151.85†	$1,413,267.95
Yonkers,* New York	2,912 (46%)	2,320 (36%)	1,124 (18%)	6,356	$227.78††	$1,447,769.68

*Estimates proportional to sub-county district # of children in poor families/total county # of children in poor families.

**These only include AFDC counted in the Commissioner's Formula, i.e. receiving payments above poverty line.

***Children in institutions for the neglected and delinquent, foster homes.

****Boston is treated as if it included all of Suffolk County: it is actually 96% of population but receives all Title I.

†80% of national average.

††120% of national average.

data on which the U.S. Commissioner's allocation formula is based are available only at the county level. Since only four of the 13 LEAs participating in the Demonstration are coterminous with counties*, in the remaining cases estimates have been made.

The data in Column 1 are drawn from the 1970 U.S. Census for each of the 13 LEAs.** The data in Column 2 are taken directly from the U.S. Commissioner's allocation figures in the 4 LEAs which are coterminous with counties and estimated for those LEAs which are not. Estimates are made by 1) computing the proportion that the number of children in Column 1 represents of the total number of children in families below the poverty line in the county of which the district forms a part; and 2) by multiplying this proportion by the number of AFDC children in that county.*** For example, we first determined that the 1,036 children in families below poverty in the Adams County school district represent 23% of the children in families below poverty in all of Adams County #12. By multiplying the number of children in families receiving AFDC in the total county by 23% (282 x .23 = 65), we obtain an estimate for Column 2. We apply a similar procedure to Column 3. Column 4 is the sum of Columns 1 through 3. The basic assumption underlying this estimation procedure is that the proportions of district to county children in each of these three categories are the same. Although this assumption may lead to some error, it should not be large. Given the data available, this estimation procedure is optimal.

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*The four LEAs are Berkeley County, West Virginia; Charlotte, North Carolina; Harrison County, West Virginia; and Winston-Salem, North Carolina.

**These data are provided on the LEA level by the National Center for Educational Statistics. They are taken from the fourth count of the 1970 U.S. Census.

***County figures are drawn from the U.S. Commissioner's allocation figures.

These estimates provide us with a standard across all 13 districts for comparing the relative size of the resources available to each based on the numbers of "eligible children". They are also useful in comparing the resources actually provided to each of the 13 LEAs with the estimated resources "assigned" by the U.S. Commissioner's allocation formula. In addition, they allow us to examine the relative importance of various "eligible population" categories to the ultimate allocation in a district. Thus, we can determine the relative impact of each of the three components of the first multiplier on the resources made available to each of the 13 LEAs.

Column 1 of Table 2.5.1 displays the number of children in families below the poverty line. For eight of the 13 districts, this component accounts for over 90% of the first multiplier; that is, the number of eligible children is almost entirely determined by this figure. For two sites--Alum Rock, California and Newport, Rhode Island--this component contributes greatly to the first multiplier--76% and 84%, respectively. Finally, for three sites--Boston, Massachusetts, Racine, Wisconsin, and Yonkers, New York--it accounts for roughly half of the first multiplier, with other components assuming importance.

The second column displays the estimated number of children eligible in families receiving AFDC. This component contributes to the allocation in only six of the thirteen districts. In Adams County #12, the contribution is minimal--6%. The contribution made to the estimate in Alum Rock (18%) and in Newport (13%) is substantial, but not as high as the contribution in the other three districts--Boston (40%), Racine (33%), and Yonkers (36%).

Note, however, that these figures represent only the proportion of "AFDC eligible" students in the total student population eligible for purposes of the Commissioner's formula. As we have noted in Section 2.1, the State Education Agency (SEA) has considerable discretion to devise its own system for distribution of funds to districts at the sub-county level. It is at this step of the process that a state can choose to magnify the importance of the AFDC count in the system for distribution of funds. California and Massachusetts, for example, use AFDC as the exclusive criterion for proportioning county allocations to sub-county LEAs. It would not be surprising to find, therefore, that the sub-county allocations to districts in these states differ from those which would emerge if the Commissioner's formula (using the three eligibility categories) were to be applied. New York, Rhode Island, and Wisconsin, by contrast, use formulae comparable to the Commissioner's for determining their sub-county allocations, so the estimates for these sites should be quite close to the allocations actually made by these states.

Column 3 displays the estimated number of children eligible based on residence in institutions for the neglected and delinquent or in foster homes. With the exception of Yonkers, there is very little inter-district variance. For the other 12 LEAs, the range in the proportion accounted for by this component of the multiplier is 1%-6%. For Yonkers, the proportion accounted for is 18%. Thus, Yonkers' allocation is proportionally higher than the other 12 LEAs, due to this component.

Column 4 in Table 2.5.1 shows the second multiplier, which is used in the Commissioner's allocation formula, equalling 40% of the state average per pupil expenditure. Five of the LEAs in the Demonstration are in states in which the state average per pupil expenditure is less than 80% of the national average, and thus the amount entered is 80% of the national average: these are Berkeley County, West Virginia; Charlotte-Mecklenburg, North Carolina; Harrison County, West Virginia; Houston, Texas; and Winston-Salem/Forsyth, North Carolina. One of the states, New York, has a state average per pupil expenditure greater than 120% of the national average, and thus 120% of the national average is used for the allocation in Yonkers.

The final column in Table 2.5.1 displays the estimated allocations based on the formula of the U.S. Commissioner of Education. These estimates are obtained by multiplying Column 4 by Column 5. The figures are not the actual allocations to these LEAs. They are only estimates approximating the allocation each LEA would receive if the states were bound by the U.S. Commissioner's formula in distributing Title I monies. In fact, the 11 states represented in the study used idiosyncratic procedures for allocating funds to LEAs, and thus their actual allocations will vary from these estimates.* A comparison between "assigned" allocations based on the Commissioner's formula and the actual allocations which the districts received in 1975-1976 is found in Table 2.5.2.

Columns 1 and 2 of Table 2.5.2 repeat Columns 6 and 5 of Table 2.5.1, respectively. These two columns are repeated for comparison with Columns 3 and 4. Column 3 presents the actual Title I budget in 1975-1976 for each of the 13 LEAs. The entries in Column 3 are taken from Title I applications submitted by the LEAs to the states. The figures presented do not include Title I monies made available through reallocation of the funds not applied for by other districts within the state or carryover monies. The dollar

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*Applied Urbanetics, Inc. is under contract with the Compensatory Education Group at NIE to study sub-county allocation procedures. Their reports will describe the allocation procedures for states to LEAs in much greater detail than is possible in this report.

TABLE 2.5.2

ESTIMATED TITLE I ALLOCATION BASED ON U.S. COMMISSIONER OF EDUCATION FORMULA, ACTUAL ALLOCATION, AND ESTIMATED BUDGET PER USOE FORMULA ELIGIBLE STUDENT IN 13 LEAs PARTICIPATING IN NIE ESEA TITLE I COMPENSATORY EDUCATION DEMONSTRATION

1975-1976

Demonstration LEA	Estimated Formula Allocation (1)	Estimated per Pupil Allocation Based on Formula (2)	Total Actual Budget - Title I Application (3)	Title I Budget Per USOE Formula Eligible Pupil (4)	Proportion of Actual to Estimated $\left[\frac{(3)}{(1)}\right]$ or $\left[\frac{(4)}{(2)}\right]$ (5)
Adams County #12 Colorado	$ 203,254.55	$178.45	$ 160,136	$ 140.60	79%
Alum Rock, California	$ 692,875.78	$184.57	$ 818,893	$ 218.14	118%
Berkeley County, West Virginia	$ 264,370.85	$151.85	$ 264,432	$ 151.88	100%
Boston, Massachusetts	$9,302,864.13	$192.57	$9,210,897	$ 190.67	99%
Charlotte-Mecklenburg, North Carolina	2,296,427.55	$151.85	$2,081,692	$ 137.65	91%
Harrison County, West Virginia	$ 483,338.55	$151.85	$ 424,915	$ 133.50	88%
Houston, Texas	$7,502,604.81	$151.85	$5,392,953	$1,109.15	72%
Mesa, Arizona	$ 336,996,34	$158.14	$ 313,795	$ 147.25	93%
Newport, Rhode Island	$ 275,523.72	$217.29	$ 195,997	$ 154.57	71%
Racine, Wisconsin	$1,127,934.70	$198.65	$1,040,607	$ 183.27	92%
Santa Fe, New Mexico	$ 525,408.48	$152.16	$ 424,019	$ 122.80	81%
Winston-Salem, Forsyth, North Carolina	$1,413,267.95	$151.85	$1,413,268	$ 151.85	100%
Yonkers, New York	$1,447,769.68	$227.78	$1,844,333	$ 290.17	127%

figures in Column 3 were reviewed and confirmed by the LEA administrative staff subsequent to the 1975-1976 school year, and are the best estimates of Title I funds available during 1975-1976. They allow a better examination of state policies and procedures for allocating Title I funds to LEAs than do actual LEA expenditures, since actual expenditures are subject to varying exigencies internal to the LEAs and are responsive to idiosyncratic circumstances and events. Column 4 divides the actual Title I budget by the estimated number of Title I eligible students (Column 4 of Table 2.5.1). Thus, Column 4 allows a comparison of per pupil allocations with Column 2. This comparison is not direct--that is, Column 2 represents 40% of the average state per pupil expenditure for regular instruction and Column 4 the per pupil budget for Title I. If we assume, however, that the second multiplier in the U.S. Commissioner's formula is an ideal against which actual per pupil allocations may be measured, the comparison is a useful one. Finally, Column 5 shows the proportion of actual funds available relative to the "assigned" allocation based on the formula of the U.S. Commissioner of Education.

Column 5 indicates that the funds actually received by the LEAs varied greatly from the "assigned" funds based on the U.S. Commissioner's formula. The proportion of actual to assigned ranges from a low of 71% in Newport, Rhode Island to a high of 127% in Yonkers, New York. Table 2.5.2 indicates that the funds actually available "per USOE formula eligible "* pupil in LEA are a function of the state average per pupil expenditure, but that their relationship to individual components of the first multiplier in the Commissioner's formula is less certain. It indicates that while funds are a function of state average per pupil expenditure, and to some extent of the numbers of pupils counted in each component of the eligibility formula, that they certainly are not determined exclusively by these two multipliers in the Commissioner's formula. Instead, the funds available to the districts vary widely as a function of the state allocation procedures.

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*We use the term "USOE Formula Eligible" to refer to the number of students estimated to be eligible according to the formula used by the U.S. Commissioner of Education. Later we will adopt the term "SEA formula eligible" to refer to those students counted by the measures actually used in SEA-to-LEA allocation, and "LEA formula eligible" to refer to those students counted by the measures actually used by the LEAs to allocate resources to schools and students. Finally, we later adopt the term "program eligible" to refer to students who are eligible to receive instruction because of educational disadvantage (low test scores or school performance ratings).

For the purposes of our study, the source of variation in dollars available per formula eligible pupil during 1975-1976 is less important than the amount of variation, which ranges from $81.92 in Winston-Salem, North Carolina to $290.17 in Yonkers, New York. The variance in funds available per USOE formula eligible student, as illustrated by Table 2.5.2, is the most important point of this chapter. It illustrates the differing amounts these LEAs have to allocate. These LEAs begin with radically different resource levels for distribution to schools and students. We expect the funds actually available per formula eligible student to be an important constraint on the allocations policies and procedures which LEAs pursued in 1975-76, and on those which they initiate in 1976-77.

Since experimental intra-district allocation policies and procedures initiated by the Demonstration LEAs must be examined in the light of possible alterations in inter-district allocation procedures, we turn now to an examination of the sources of the variance. There has been considerable controversy over the impact on allocation of each of the components figured into the Commissioner's formula. As noted above, these components include:

- state average per pupil expenditure
- resident children from low-income families

- institutionalized children
- children whose families received AFDC at a level above a certain cutoff point.

The actual effect of these factors on allocation is examined in Figure 2.5.1 below.

The graph highlights sources of variance by indicating the allocations that districts would have received had certain of the factors (or groups of factors) enumerated above been eliminated from consideration, or held constant, in the allocation process. The baseline of comparison in the graph is the "100%" line. It represents the estimated amount that LEAs would be "assigned" by the Commissioner's formula if the formula:

- did not count institutionalized children
- did not count eligible AFDC children
- did not use the state's average per pupil expenditure as a consideration, but rather used the national per pupil expenditure as a constant for all states

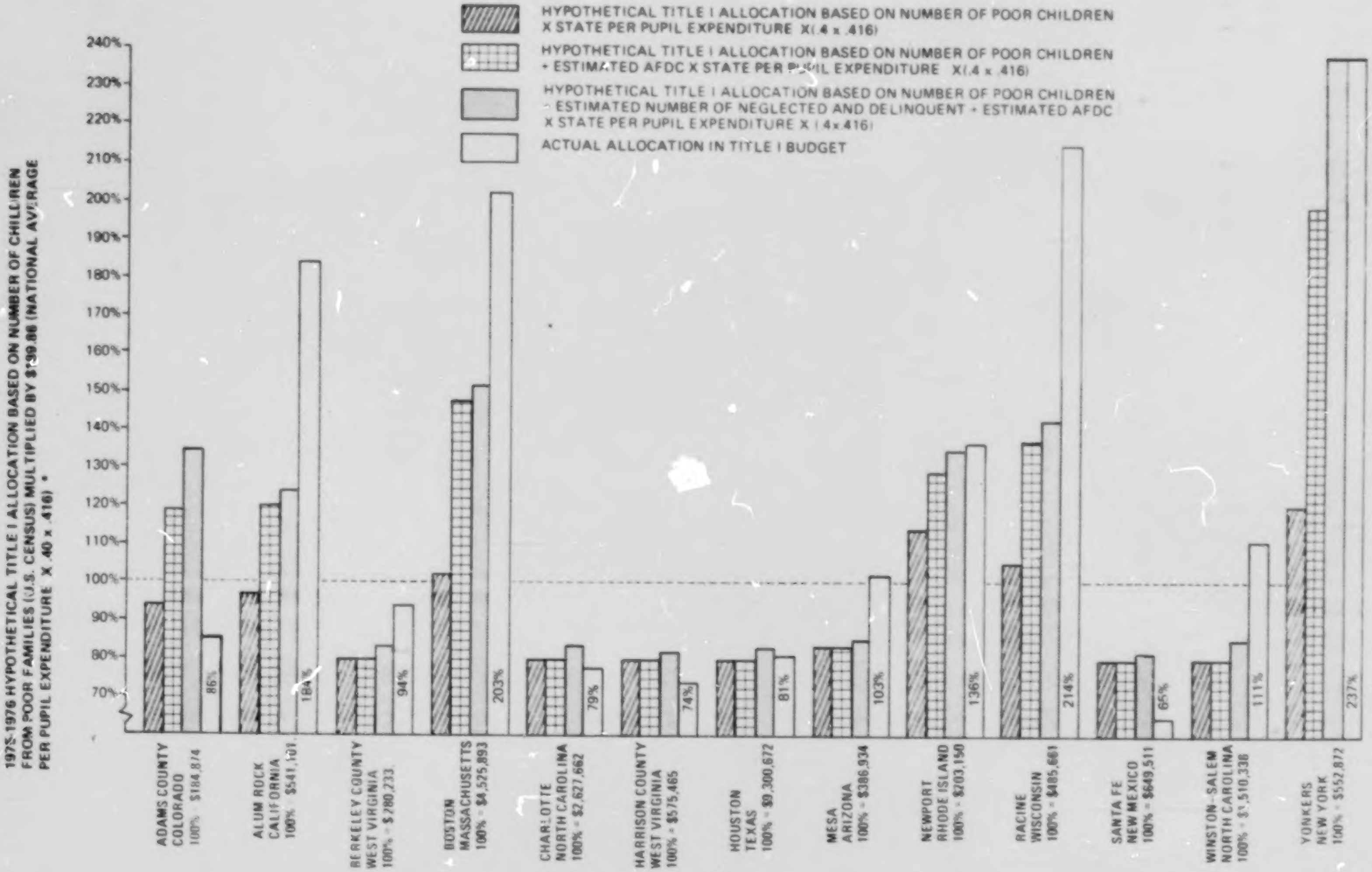
Eliminating these factors from the Commissioner's formula yields a formula whereby an LEA's assigned allocation is the product of the number of resident children from low-income families in the LEA multiplied by 40% of the national average per pupil expenditure, or $189.96.

The actual dollar amount each LEA would receive under such a revised formula is indicated at the bottom of the graph next to the LEA name. With the 100% line for comparison, the graph then re-integrates the omitted components of the formula and demonstrates the effects of each component on "assigned" LEA allocation.

There are four bars for each LEA. The first indicates the hypothetical allocation for that LEA based on the actual state average per pupil expenditure, multiplied only by the number of poor. The second indicates the hypothetical allocation using the actual state average per pupil expenditure and

Figure 2.5.1

Hypothetical Title I Allocation Alternatives and Actual Budgeted Title I Allocation Shown as Percent of Allocation Based on National Average Per Pupil Expenditure for 13 LEAs in NIE ESEA Title I Demonstration



* .416 = Ratable reduction from entitlement to appropriation

adding the estimated number of children qualifying because their families receive AFDC payments above the poverty line. The third is again based on actual state average per pupil expenditures and the estimated number of children qualifying because of the AFDC component, but adds the number of children in institutions for the neglected and delinquent. Thus, the first three bars are cumulative, based on additional components of the formula. The fourth bar indicates the actual allocation of the LEA as indicated in the Title I application. These three hypothetical estimates and the actual allocations are expressed as proportions of the hypothetical allocation based on the number of children in poor families multiplied by the national average expenditure multiplier ($189.86).

The differences among the estimates represented by the first three bars indicates the contribution of each component to the allocation. The effect of the first step--using actual state per-pupil expenditure--can be to raise or to lower the actual allocation, depending on whether the state expenditure is above or below the national average. After that, the second step always increases the allocation, but usually not by very much. The difference between the third step and the fourth--the actual allocation--can be attributed to permissible state discretion, particularly choice of the poverty measure used in the allocation formula.

For 9 of the 13 LEAs, the effect of the state average per-pupil expenditure is to decrease the allocation below one based on the national average. These are Adams County #12, Colorado; Alum Rock, California; Berkeley County, West Virginia; Charlotte, North Carolina; Harrison County, West Virginia; Houston, Texas; Mesa, Arizona; Santa Fe, New Mexico; and Winston-Salem, North Carolina. For the other four the effect is to increase the allocation. These are Boston, Massachusetts; Newport, Rhode Island; Racine, Wisconsin; and Yonkers, New York. It is clear from the graph that northeastern states spend more on education than do those in the south and west.

At the next step, AFDC children are counted and increase the estimated allocation for six of the LEAs: Adams County #12, Colorado; Alum Rock, California; Boston, Massachusetts; Newport, Rhode Island; Racine, Wisconsin; and Yonkers, New York. Each of the four LEAs which have state per-pupil expenditures above the national average also have an additional contribution made to their allocation by AFDC. The same can be said for only two of the nine with state per-pupil expenditures lower than the national average. Thus, the contribution of these two factors is clearly correlated.

The contributions made by the addition of children in institutions for the neglected and delinquent is not large for any LEA. This is because the proportion contributed by this component varies only from 2% to 6% (with the exception of Yonkers, New York, for which the contribution is 18%).

The amount of the allocation attributable to discretionary decisions can be large, as in Alum Rock, Boston, and Racine. Discretion accounts for moderate increases in Mesa and Winston-Salem. Adams County's allocation apparently has been decreased through such decisions. (It should be pointed out that one such discretionary decision is the updating of poverty estimates. The updating varies by state. The figures used here are from the 1970 U.S. Census.) The differences attributable to discretionary decisions in the remaining LEAs are relatively small and probably due to updating of formula items.

The net effect of these four factors is large variance in the allocations per pupil to these 13 participating LEAs. If allocation were based on the number of poor children in the LEAs multiplied by the national average per-pupil expenditure, the Demonstration LEAs would receive anywhere from 65% of current allocation to 237% of current allocation. In practice, the effect of the variance in available resources per pupil in need is diminished by the variance in the cost of living which correlates with both state per-pupil expenditures and levels of AFDC payments. Thus, each dollar in a state with low per-pupil expenditures is likely to buy more than each dollar in a state with high per-pupil expenditure. In fact, state per-pupil expenditures are partly a function of the salary level for teachers who must be paid to teach Title I instruction. Nevertheless, the variance is not simply a function of such varying costs and represents a very real difference in the resources which can be supplied through ESEA Title I support.

Any ultimate judgements about the options which are being implemented for LEAs to schools' and students' allocation should be made in light of the results of current SEA to LEA allocation, as well as possible changes at that level.

2.6 Allocation from LEAs to Schools and Students

This section describes the results of the statutes, regulations, and guidelines which were in effect during the 1975-76 school year for the 13 LEAs participating in the Demonstration. In so doing, it examines the constraints and discretionary decisions at each step in the intra-district allocation process and their effects on the distribution of resources to schools and to students within these LEAs. In order to illustrate the rules and decisions which will be discussed in this section, we have repeated the bottom half of Chart 2.1 here, as Chart 2.6.1. This shows the six stages in the intra-district allocation process. (The reader may want to refer to Section 2.1 for a description of the Title I statutes, regulations, and guidelines under which the districts were operating in 1975-76.)

The first stage in the intra-district allocation process is the determination of the eligibility of schools for Title I. States do establish regulations and guidelines for the measurement of poverty which can be used to determine the eligibility of schools. In practice, however, there appears to be discretion at the LEA level with regard to the measure adopted. The only constraint which seems to be applied to all LEAs is that the same measure must be used for all schools within an LEA. LEAs use discretion is selecting a wide variety of measures and gathering information from a wide variety of sources in order to make school eligibility decisions. The result is that the poverty measures used by LEAs to determine eligibility of schools (LEA formula eligible) and the poverty measures used by the federal government (USOE formula eligible) and the states (SEA formula eligible) to distribute resources to LEAs are quite different.* The differences have implications both for the

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*We use "USOE formula eligible" to refer to those students who are counted by the U.S. Commissioner's formula, "SEA formula eligible" to refer to those students counted by the state to allocate funds to LEAs, and "LEA formula eligible" to refer to students counted by the LEA to allocate resources to schools and students.

CHART 2.6.1

STAGES IN THE ALLOCATION PROCESS FOR TITLE I ESEA FUNDS DISTRIBUTION: INTRA-DISTRICT ALLOCATION

Decision Level in the Allocation Process and Level of Administrative Responsibility	TYPE OF DECISION AND ACTION
Decisions and Actions of LEAs Allocating Resources to Schools	Eligibility of Schools Based on Concentration of Poor Students
	Targeting of Schools Based on Percent, or Number, or Both, of Poor Students
	Proportional Distribution of Resources to Targeted Schools in Order to Serve the Neediest and Concentrate Services Effectively
Decisions and Actions of School and Program Staff Allocating Resources to Students	Eligibility of Students Based on Educational Disadvantage
	Targeting of Students Based on Greatest Need
	Proportional Distribution of Services According to Need

decision as to whether an individual school will or will not be eligible and for the degree to which Title I resources are concentrated or dispersed among schools within an LEA.

Figure 2.6.1 presents for each LEA three bars indicating the proportion of poor students in the LEA by three different measurements. The first bar is based upon the 1970 U.S. Census count. The second bar indicates the estimated proportion of eligible poor students according to the U.S. Commissioner of Education's formula. These figures are taken directly from the U.S. Commissioner's allocation figures in the four LEAs which are coterminous with counties: Berkeley County, West Virginia; Charlotte, North Carolina; Harrison County, West Virginia; and Winston-Salem, North Carolina. In the remaining LEAs, they are only estimates approximating the allocation each LEA would receive if the states were bound by the U.S. Commissioner's formula in distributing Title I monies.* Since states do employ differing procedures, actual allocations may differ from these estimates. The third bar indicates the mean proportion poor in public elementary schools according to the Title I application. This is the criterion used by the LEA for determining the eligibility of schools for Title I services.**

Comparison of the first bar with the second bar illustrates the difference between the proportions of students in an LEA who would be designated as eligible under the current USOE allocation formula and a hypothetical allocation criterion based simply on the census definition of poverty. Together they provide a basis from which to make estimates and judgments with regard to the degree to which resources and services within

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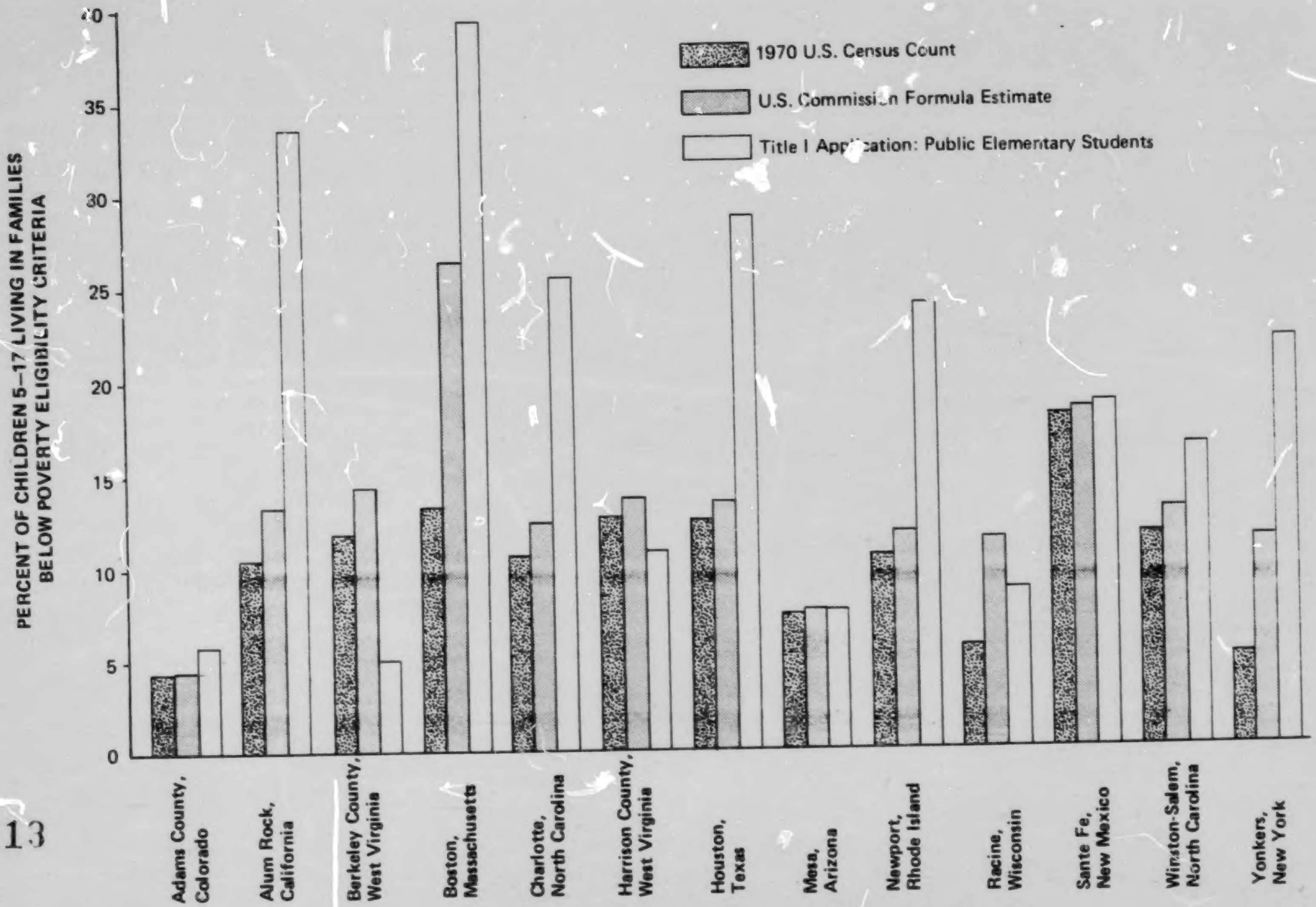
*See Section 2.5, p. 75, for a complete description of the estimation procedure.

**Since the SEA formula data are not available on a basis comparable to the other indicated, these data are not included.

Figure 2.6.1

Three Estimates of the Proportion of School Age Children Eligible for Title I Based on Poverty Formula for Each of 13 LEAs in the NIE ESEA Title I Compensatory Education Demonstration



each LEA are concentrated or dispersed among students. If we know both the incidence of poverty and the incidence of receipt of Title I services by students in an LEA, then we have a comparable measure of concentration or dispersal. If we relied only on SEA or LEA definitions of poverty eligibility, we would be unable to make comparisons across LEAs.

The comparison of the third bar in Figure 2.6.1 with the first or the second illustrates the degree to which the SEA and/or LEA definitions and decision rules can affect both eligibility and concentration. It is not possible on the basis of data currently available to determine the exact nature of these effects. That would require information at the student and/or school level about the relationship between each of the different measures of poverty eligibility. Such level of measurement is not available for the data in Columns 1 or 2 of Figure 2.6.1. Thus, while Columns 1 and 2 are measures of poverty which are comparable across LEAs, they cannot be used to analyze intra-district allocation. We provide the comparison with bar 3 at the outset of this chapter, because that data can and will be used at the intra-district level. Comparing the third bar in this graph with the first two indicates the discrepancy, often great, between the definition of the eligible population being used by the LEA to determine eligibility of the schools and the definition used for allocating resources to the LEA. The results of the LEA decision, whatever their precise content, can be examined by looking at the outcomes at the subsequent stages in the allocation process.

In order to do that, we have outlined in Table 2.6.1 the outcomes of school eligibility and targeting decisions for each of the 13 LEAs. Column 1 shows the mean percentage poor in public elementary schools and Column 4 shows the number of schools that could be defined as eligible because they have a percentage poor which is higher than that shown in Column 1. Column 2 indicates the mean number poor in public elementary

TABLE 2.6.1

ELIGIBILITY AND TARGETING OF SCHOOLS IN THE 13 LEAs PARTICIPATING IN THE NIE TITLE I ESEA COMPENSATORY EDUCATION DEMONSTRATION 1975-1976

DEMONSTRATION LEA	Mean Percent Poor Pupils in Public Elementary Schools as Reported on Title I Application (1)	Mean # Poor Pupils in Public Elementary Schools (2)	# of Public Elementary Schools (3)	# of Public Elementary Schools Above (1) (4)	# of Public Elementary Schools Above (2) (5)	# of Public Elementary Schools Above Both (1) and (2) (6)	# of Public Elementary Schools Served/ Targeted (7)
Adams County, Colorado	6.5	42.5	16	6	5	3	3
Alum Rock, California	33.6	203.8	25				
Berkeley County, West Virginia	6.4	21.7	13	10	6	6	10
Boston, Massachusetts	38.3	246	116	57	33	25	66
Charlotte, North Carolina	25.5	152.7	73	49	40	31	49
Harrison County, West Virginia	14.4	43.7	30	23	16	14	25
Houston, Texas	38.1	200		91	65	64	54
Mesa, Arizona	7.5	52.0	25	14	9	9	13
Newport, Rhode Island	23.7	*	9	3	*	*	3
Racine, Wisconsin	8.4	85.8	**		3	2	
Santa Fe, New Mexico	21.1	109.4	16	11	7	7	11
Winston-Salem, North Carolina	16.0	140	24***	13	22	13	13
Yonkers, New York	22.9	198	31	12	12	12	9

* Data not available at this time.

** Racine lists 27 schools on its Title I application. Several of these schools have separate "schools" within them (e.g., a neighborhood kindergarten and a 1-6 school for which the attendance area includes several neighborhoods). The total number of schools in the district is therefore 33.

*** There were 37 elementary schools in Winston-Salem in 1975-76. However, due to its desegregation strategy this district lists school pairings in their Title I application. Twenty-four pairings or school attendance areas are listed; 13 schools in the eligible areas are served by Title I.

schools and Column 5 shows the number of schools which could be defined as eligible because they have a higher number than that shown in Column 2. It was pointed out in Section 2.1 that LEAs could use either or both of these two criteria for determining the eligibility of public schools. In fact, most of the LEAs used the percentage criterion. In general, more schools qualified using this criterion than would have under the number of poor students criterion. The difference between using the percentage criterion and both criteria was, in most cases, insignificant. Thus, the criterion utilized to determine the eligibility of schools did, in fact, constrain the LEAs in terms of the number and selection of schools defined as eligible. Within those constraints, the LEAs are likely to serve the maximum number of schools permissible. This is illustrated in Table 2.6.2, which recalculates the numbers of schools presented in Table 2.6.1 as proportions of the total public elementary schools in the LEA.

Column 1 of Table 2.6.2 indicates the percentage of all public elementary schools which were determined as eligible and were also targeted for services, i.e., they actually received services in 1975-76. Column 2 indicates the proportion of public elementary schools which were defined as eligible but which were not targeted in 1975-76. In 9 of the 13 LEAs all eligible schools were targeted, as indicated by a "0" in Column 2. All four remaining LEAs except Houston targeted at least half of the eligible schools. The average ratio of those eligible schools which were targeted in those LEAs to those which were not was approximately 2:1. Those LEAs which did choose to concentrate Title I services at the school level did so on the basis of the proportion of poor in the schools. They served the schools with the highest proportions of poor students and tended to concentrate Title I resources within those schools according to the proportion of poor students.

TABLE 2.6.2

PERCENTAGE OF ALL PUBLIC ELEMENTARY SCHOOLS ELIGIBLE AND TARGETED, ELIGIBLE AND NOT TARGETED, NEITHER ELIGIBLE NOR TARGETED IN THE NIE TITLE I ESEA COMPENSATORY EDUCATION DEMONSTRATION*
(1975-1976)

DEMONSTRATION LEA	% Public Elementary Schools Targeted 75-76 (1)	% Public Elementary Schools Eligible But Not Targeted 75-76 (2)	% Not Eligible, Not Targeted 100- ((1)+(2)) (3)	Total Elementary Schools (4)
Adams County, Colorado	19%	13%	68%	16
Alum Rock, California	47%	0	53%	19
Berkeley County, West Virginia	77%	0	23%	13
Boston, Massachusetts	56%	0	44%	116
Charlotte, North Carolina	67%	0	33%	73
Harrison County, West Virginia	83%	0	17%	30
Houston, Texas	32%	46%	22%	169
Mesa, Arizona	52%	4%	44%	25
Newport, Rhode Island	33%	0	67%	9
Racine, Wisconsin	42%	0	58%	33
Santa Fe, New Mexico	69%	0	31%	16
Winston-Salem, North Carolina	35%**	0	65%	37
Yonkers, New York	29%	10%	61%	31

*"Targeted" is the technical word used in Title I of the ESEA legislation and in the regulations. It is synonomous with "served" as used elsewhere in this report.

**Under their desegregation plan, several inner-city schools in Winston-Salem are paired with more than one suburban school. For a school to be eligible, the percentage of poor students from the school's total attendance area must exceed the district-wide percentage. Thirteen schools were eligible using this criterion and were served.

The data presented to this point in this section illustrate three simple facts about the results of the intra-district allocation process. First, they illustrate that the poverty measures which are used for determining the formula for eligibility of students, and thus of schools, vary widely from LEA to LEA, as demonstrated by comparison of the standardized estimate of the proportion of students eligible based on the formula used by the U.S. Commissioner of Education with students (and schools) eligible by LEA formulas. Second, they illustrate that LEA discretion to choose differing poverty measures and criteria leads to a variety of definitions of school eligibility and, partly as a consequence, a marked variety in proportions of schools classified as eligible. Third, the data suggest that most districts maximize the number of schools targeted within the constraints of current statutes and regulations.

Analysis of these data does not suggest any simple pattern of sequential effects in the allocation process or any consistent pattern of relationships. LEAs with very similar patterns with regard to the three measures of proportion poor illustrated in Figure 2.6.1 show quite different eligibility and targeting patterns in Table 2.6.2. For example, Adams County, Colorado and Mesa, Arizona, both show relatively small proportions poor according to all three indicators in Figure 2.6.1 with the maximum difference between any one indicator across the two districts being less than 3%. However, for Adams County, only 31% of the public elementary schools are defined as eligible and all but one of them are targeted. Another somewhat anomalous example is the comparison between Boston, Massachusetts and Charlotte, North Carolina. In Boston a much higher proportion of students is defined as LEA formula eligible, 39% versus 25%, but a smaller proportion of schools is defined as eligible and is targeted in Boston than in Charlotte, 56% versus 67%. There is a variety of explanations which one might hypothesize for the quite varied school level allocation patterns within these 13 LEAs. Perhaps the most obvious is that there are different patterns of distribution of low income students across schools. All other things being equal, this could lead to widely differing results in eligibility and targeting of schools. The important point, however, is that all the statutes, regulations, and guidelines lead to no simple, comparable allocation pattern within LEAs receiving Title I support. Indeed, one might argue that the procedures and their results have as many variations as there are LEAs in the study.

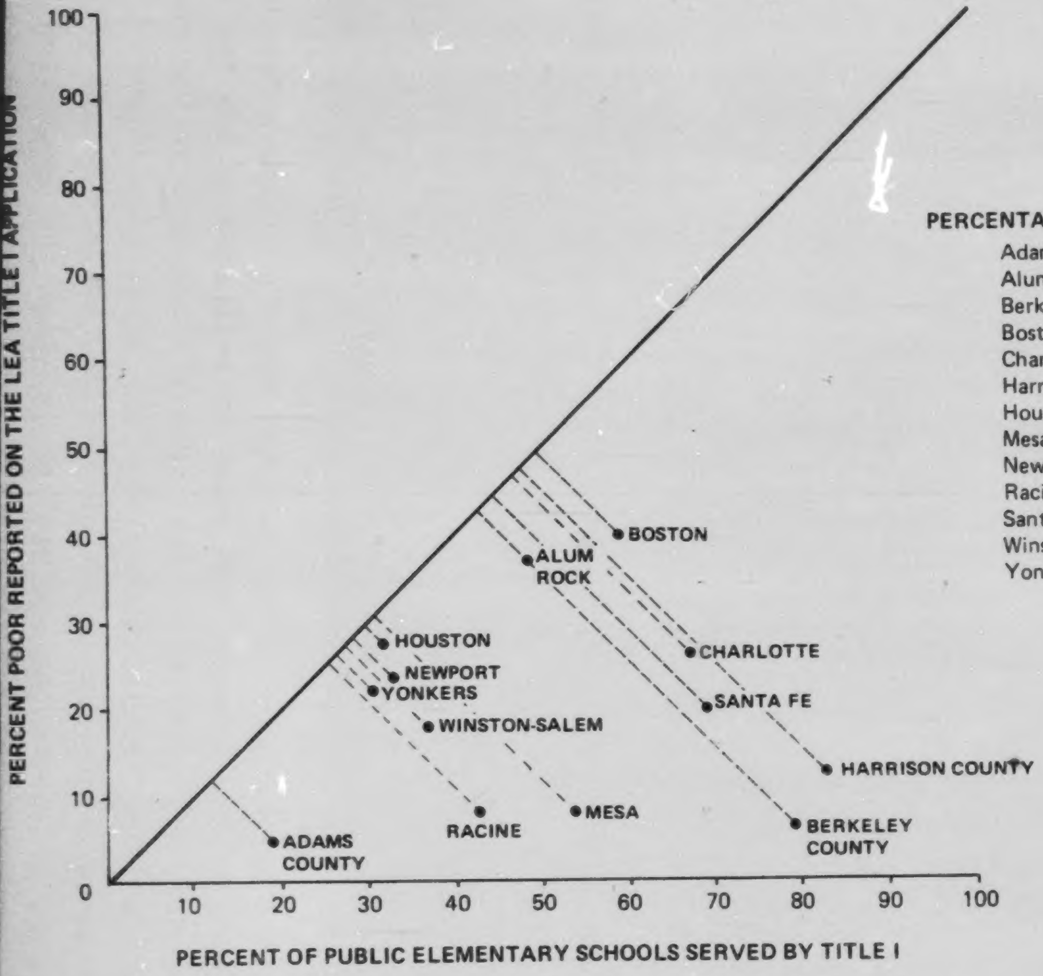
Can we establish a metric comparable across the 13 LEAs with which to compare the effects of the allocation process on the number of schools which are eligible or targeted? The data presented so far indicate that neither the poverty measure nor the criterion (percentage versus numbers used) for determination of school eligibility has much bearing. Given the apparently modest correlation between the overall proportion of students eligible and the proportion of public elementary schools eligible and/or targeted, we can expect variance in the degree to which services are concentrated or dispersed across Title I schools. If such variance exists, then it is likely that the changes initiated under the Demonstration while on the surface perhaps similar might be quite varied in the magnitude of their impact. Thus, the more precise question has two parts. First, what is an appropriate metric for the assessment of concentration of Title I resource across schools? Second, do these 13 LEAs vary on this measure?

An appropriate metric should be simply defined and should be sensitive both to the formula of the U.S. Commissioner of Education defining the Title I eligible population and to formulae used to define the Title I eligible population in the individual LEA applications. A relatively simply approach is to plot the location of the 13 LEAs on a two-dimensional graph. One dimension is the proportion of students eligible in the LEA (by the USOE formula or by LEA definition); the other is the proportion of public elementary schools served. A diagonal can be drawn through such a graph which represents a one-to-one relationship. If poor students were evenly distributed among schools and a one-to-one relationship existed, the proportion of eligible students would be identical to the proportion of eligible schools targeted. In the abstract, LEAs above this diagonal would be more concentrated and LEAs below the diagonal would be less concentrated. In fact, all 13 LEAs fall below the diagonal and thus relative concentration or dispersion can be measured by the perpendicular distance between the diagonal and the location of the LEA. The greater the distance, the more dispersed are Title I services relative to the proportion poor in the LEA. Figure 2.6.2 shows the two-dimensional plot of the percentage poor according to the LEA Title I application and the percentage of public elementary schools served by Title I. Figure 2.6.3 shows the two-dimensional plot for the estimated percentage eligible according to the formula of the U.S. Commissioner of Education and the percentage of public elementary schools served by Title I.

Each of these two-dimensional plots has the distance perpendicular to the diagonal indicated by dotted lines for each LEA. Alongside the plot, a "Percentage Scale Discrepancy Score" is presented. This score is based upon the same metric as the two percentages in the plot and thus is called a "percentage scale." For example, the score is indicated as ten for Adams County #12, Colorado. This equals a distance on the two-dimensional plot equivalent to 10%. It is called a "discrepancy" score because it is the discrepancy between actual allocation and a hypothetical allocation in which the proportion of the students poor and the proportion of schools served are exactly equal. Finally, the larger the score the more dispersed are Title I services relative to the proportion of students in the LEA who are poor or are formula eligible.

Figure 2.6.2

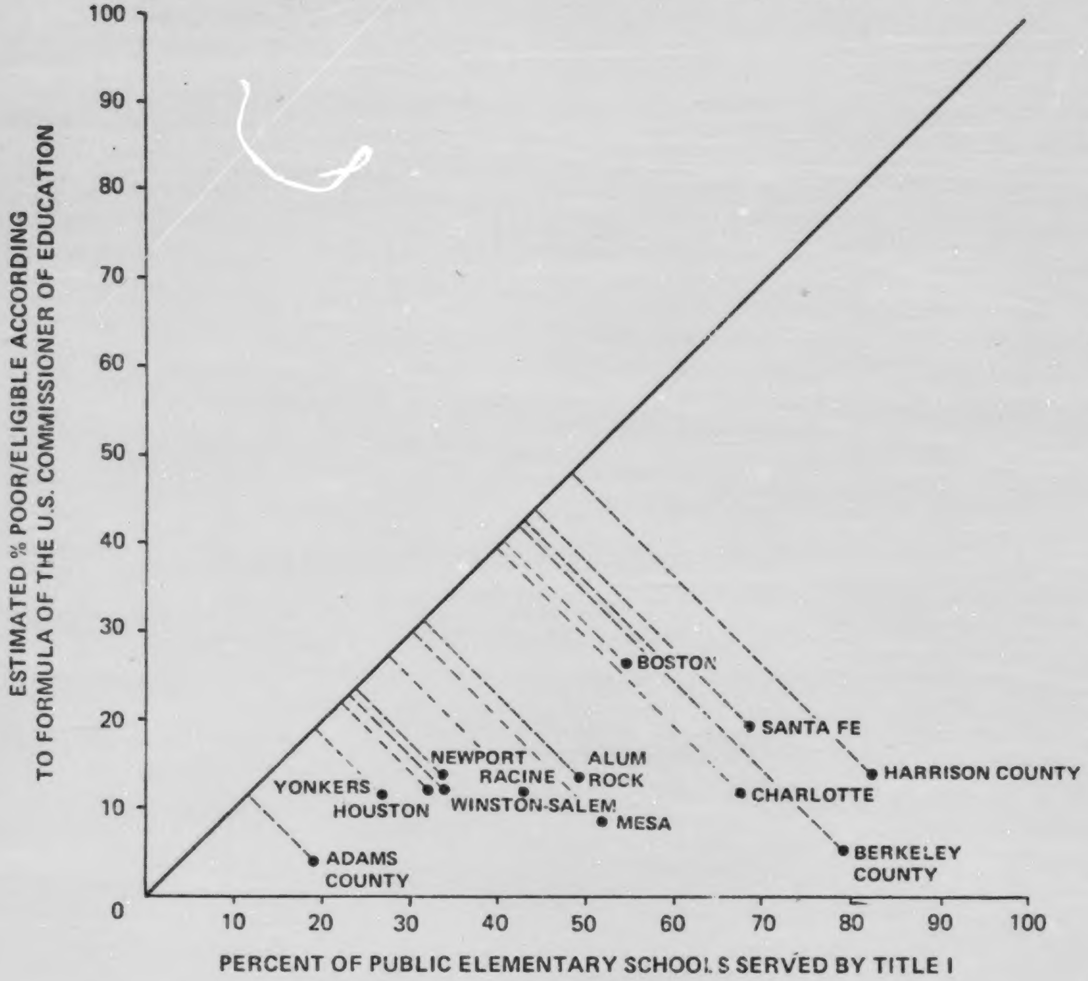
Relationship Between the Percentage of Students Poor on Title I Application and the Percentage of Public Elementary Schools Served by Title I



PERCENTAGE SCALE DISCREPANCY SCORE	
Adams	10
Alum Rock	8
Berkeley	53
Boston	14
Charlotte	30
Harrison	50
Houston	4
Mesa	32
Newport	7
Racine	25
Santa Fe	35
Winston-Salem	12
Yonkers	5

Figure 2.6.3

Relationship Between the Estimated Percentage of Students Poor According to U.S. Commissioner Formula and the Percentage of Public Elementary Schools Served by Title I



PERCENTAGE SCALE DISCREPANCY SCORE	
Adams	11
Alum Rock	25
Berkeley	53
Boston	22
Charlotte	40
Harrison	50
Houston	16
Mesa	33
Newport	15
Racine	24
Santa Fe	35
Winston-Salem	17
Yonkers	13

The relationships illustrated by Figures 2.6.2 and 2.6.3 are quite similar. The correlation between the two percentage scale discrepancy scores is very high (r = .95). Thus, we can look at the combined scores across schools on this basis. The simple mechanical approach to combining these two percentage scale discrepancy scores would be to sum them. Doing so, however, disguises the fact that some of the variance in the scores based on LEA formula eligible students results from idiosyncratic departures from comparable standards. We do examine the sum scores but, in addition to analyzing the simple sum, categorize LEAs according to their relative scores on the two contributing scales. Doing so, we find it appears reasonable to classify five LEAs as highly dispersed, as indicated in Table 2.6.3. These five LEAs rank the highest on either scale; their sum scores are a minimum of 16% higher and as much as 98% higher than those of the other LEAs. Four LEAs have a moderate or mixed level of dispersion: Winston-Salem, North Carolina; Boston, Massachusetts; Alum Rock, California; and Racine, Wisconsin. Finally, four LEAs seem to have concentrated Title I services: Newport, Rhode Island; Adams County, Colorado; Houston, Texas; and Yonkers, New York, While the nature of the data is such that we would not be justified in viewing the sum scores presented in Table 2.6.3 as an interval scale, we can be confident in the comparison of the LEAs which have highly dispersed services across schools. We can examine further the four LEAs in the two middle categories to see if any clear patterns emerge. These comparisons will be the subject of analysis in future reports.

We have examined the first two stages in the allocation process: school eligibility and targeting. That examination has been necessarily complex because of the inter-dependent and simultaneous nature of decisions across all six stages. We can say at this point that there is considerable variation among districts in the measures and criteria applied at the first two stages. There are varied results from the application of these measures and criteria. Most importantly, there is

TABLE 2.6.3

SUM OF PERCENTAGE SCALE DISCREPANCY SCORES FOR DISPERSION OF TITLE I SERVICES ACROSS SCHOOLS AND CLASSIFICATION OF LEAs INTO DISPERSION TYPES

Sum of Percentage Scale Discrepancy Scores	LEA	Classification on Degree of Dispersion of Title I Services
106	Berkeley County, West Virginia	DISPERSED
100	Harrison County, West Virginia	
70	Charlotte, North Carolina	
70	Santa Fe, New Mexico	
65	Mesa, Arizona	
49	Racine, Wisconsin	MODERATELY DISPERSED OR MIXED
36	Boston, Massachusetts	
33	Alum Rock, California	
29	Winston-Salem, North Carolina	
22	Newport, Rhode Island	CONCENTRATED
21	Adams County, Colorado	
20	Houston, Texas	
18	Yonkers, New York	

substantial variance in the degree to which Title I services are dispersed across schools as a result of the procedures used by these 13 LEAs to allocate Title I resources to schools.

We have illustrated the results of school eligibility and targeting decisions for the concentration of dispersion of Title I services across schools. These decisions also affect the concentration and dispersion of Title I services to students. However, it is in estimating these results that we face the problem of the two definitions of eligibility for students. The first definition is by the three types of formula eligible students, i.e., students eligible because of their characteristics define the eligibility of LEAs for Title I funds and schools for Title I resources. Formula eligibility is defined by poverty. Second, there are "program eligible" students, i.e., those students who are actually eligible to receive Title I instructional services. These students' eligibility is defined generally by low academic achievement or some other aspect of educational need. LEAs do not provide nor are they required to provide school-by-school estimates of the numbers or proportions who are program eligible under current regulations. Program eligibility is set primarily to establish a cut-off point above which students are not enrolled in Title I instructional programs. Students are targeted starting with those defined as most in need, with the result that the eligibility cut-off point is infrequently reached. We cannot, at this point, make assessments of the results of the school eligibility and targeting decisions for the distribution of Title I services among program eligible students. We will be able to do so on the basis of survey data which will be presented in future reports. We can illustrate the results of school eligibility and targeting decisions on the distribution of Title I instructional services among formula eligible students, i.e., students from low-income families.

Data on the results of school eligibility and targeting decisions are presented in Table 2.6.4. Column 1 of this table indicates the proportion of all low-income pupils ("formula

TABLE 2.6.4

RATIO OF STUDENTS WHO ARE IN TITLE I SCHOOLS AND SERVED BY TITLE I TO LEA FORMULA ELIGIBLE STUDENTS ATTENDING PUBLIC ELEMENTARY SCHOOLS FOR 13 LEAs IN NIE ESEA TITLE I DEMONSTRATION*

LEA	1975-1976		
	Proportion of all low-income pupils in the LEA who are in schools targeted for Title I	Ratio of LEA eligible students in Title I target schools to students served by Title I	Ratio of all eligible students in LEA to students served by Title I
ADAMS	.455	.644	.293
ALUM ROCK	.87	1.00	.87
BERKELEY	.874	2.412	2.108
BOSTON	.680	.753	.512
CHARLOTTE	.640	.361	.231
HARRISON	.921	.719	.662
HOUSTON	.648	.639	.414
MESA	.754	.876	.661
NEWPORT	**	**	**
RACINE	.497	1.052	.522
SANTA FE	.883	.635	.561
WINSTON-SALEM	.551	.815	.449
YONKERS	**	**	**

*District Title I applications provided the data for this table.

**Because students served by more than one program within Title I are duplicate counted, these ratios cannot be computed for Newport and Yonkers.

eligible") who are in schools targeted for Title I. Column 2 shows the ratio of students who are actually served to the total formula eligible students in Title I schools. Column 3 shows the ratio of students who receive instructional services from the Title I program to all formula eligible students in the LEA. Table 2.6.4 uses the LEA definition of low-income students as the base for these calculations. This is the only one of the three definitions of formula eligibility for which data are available on a school-by-school basis.

Column 1 of Table 2.6.4 is the most direct indicator of the results of school eligibility and targeting decisions on the distribution of Title I instructional services to students. Since students must be in targeted schools to receive services, the proportion of the formula eligible students indicated in Column 1 are those who would receive services if there was no targeted schools, and if the number of program eligible and formula eligible children were approximately the same. Clearly, school eligibility and targeting decisions are a key determinant of the proportion of formula eligible students attending schools offering Title I services. The proportion is twice as large for Harrison County, West Virginia (.921) as for Adams County #12, Colorado (.455).

A comparison of the proportions indicated in Column 1 of Table 2.6.4 with the percentage scale discrepancy scores indicated in Table 2.6.3 shows that they are highly correlated. The LEAs with a high percentage scale discrepancy score or a high degree of dispersion of Title I services among potentially eligible schools include a high proportion of students as potential recipients of Title I services because they attend targeted schools. This is not surprising. It is an important practical illustration of the results of these allocation decisions. Decisions concerning school eligibility and targeting do not take place in a vacuum. To some extent they are constrained by the amount of resources available and the LEAs' estimates of the numbers of students who can be served with those resources. Thus, closely intertwined with the school eligibility and targeting decisions are decisions not only about which will be served but also about how many students will be served in those schools.

The ratio of formula eligible students in the targeted schools to those who are actually served is indicated in Column 2 of Table 2.6.4. This ratio is an average across all targeted public elementary schools in the LEA. The resulting ratio of all formula eligible students in the LEA to those who are actually served by Title I is presented in Column 3.

We indicated above that school eligibility and targeting decisions can have a major impact on the proportion of formula eligible students attending schools with Title I services, and thereby potentially able to receive those services. The data in Column 3 demonstrate that the eligibility and targeting decisions, while potentially important to the proportion of determinants. Decisions on resource allocation--constrained by amount of resources--can have the effect that a district with a high proportion of formula eligible students attending targeted schools can yet have a low proportion of students actually receiving Title I services in those schools. Harrison County, West Virginia is such a district; school eligibility and targeting decisions produce the highest proportion (92%) of formula eligible students attending schools with Title I services, but pupil eligibility and targeting decisions affect the proportion of students actually served such that the district has only the third highest ratio (66%) of students actually served to the number of formula eligible (behind Berkeley County, West Virginia, and Alum Rock, California).

Table 2.6.4 presents data on the average distribution of Title I services to formula eligible pupils across schools in the LEA. Below, we present information on the proportional distribution of Title I services across schools and students: that is, how much in resources is being provided to each public school targeted; how much is provided per formula eligible student; and how much is provided per served student. The variance in the proportional distribution of services across schools is an important aspect of the intra-district allocation process. We have illustrated that the LEAs vary in the average instructional resources per pupil distributed to schools. The variance around that average is a crude guide to the equity of distributional practices. We present this variance around the district average by developing a common measure for resources distributed to public elementary schools across the 13 LEAs. The best common measure includes only instructional staff resources. Expenditure on instructional staff represents the largest proportion of the Title I budgets in all of the 13 districts. Other expenditures occur in some but not all districts, or vary greatly with respect to cost among districts. Our examination of this proportional distribution is presented graphically below for selected LEAs.

Figures 2.6.4 through 2.6.13 present a series of two-dimensional graphs. Two graphs are displayed for each of five LEAs, chosen for illustrative purposes only. One axis of each graph represents a measure of the instructional staff resources in approximate dollars spent. The second axis of each of these graphs is either 1) the number of students eligible based on poverty, i.e., LEA formula eligible students in public elementary schools, or 2) the number of students served in such schools. Each graph has entries representing all of the targeted public elementary schools in the LEA. Each entry has a percentage figure next to it representing the proportion of the students in that school who are formula eligible for Title I based on poverty. Each graph has a slope line indicating the average instructional staff resouced dollars per formula eligible student for that LEA. If there were a perfect correlation between the number of formula eligible students per school or the number of students served per school and the amount of instructional staff resources, all schools would fall on this line. On the other hand, if there were a correlation between the proportion of students in a school who were formula eligible and instructional staff resources, then the higher a school entry was on the vertical scale, the higher would be the percentage figure next to that school.

Before presenting these illustrative figures, we present a table showing the actual correlations between instructional staff resources in approximate dollars and 1) the number of students eligible on the basis of poverty, and 2) the number of students actually served, across the public elementary schools in each of the 13 LEAs. Column 1 of Table 2.6.5 shows that, excluding the districts for which the number of schools is too few or for which the data are not adequate, the correlations range from .28 in Berkeley County, West Virginia to .70 in Harrison County, West Virginia. Column 2 of Table 2.6.5 illustrates that the correlation of instructional staff resources with the number of students served ranges from .23 in Racine, Wisconsin to .93 in Boston, Massachusetts. Based on an examination of the range of correlations in this table, we have selected the following five LEAs to illustrate the correlations: Boston, Massachusetts; Charlotte, North Carolina; Racine, Wisconsin; Santa Fe, New Mexico; Winston-Salem, North Carolina. These LEAs illustrate variation in both sets of correlations. They also represent LEAs with differing numbers of schools represented. The additional advantage of the selection of these five is that they exemplify quite different patterns of allocation to schools; this is true even among those with similar correlation levels. The wide variance in the proportional allocation of instructional staff resources across schools permissible under current regulations is illustrated as well by this set of figures.

Boston is an LEA with a high correlation between instructional staff resources and the number of poor students in each school and even higher correlation between instructional staff resources and the number of students served per public elementary school. The former, represented in Figure 2.6.4, is equivalent to the highest correlation among the 13 LEAs (given the confidence interval around these correlations). The latter, presented in Figure 2.6.5, is the highest of any of the LEAs in the Demonstration. Boston is an LEA which ties the distribution of Title I instructional staff resources very closely to the distribution of students from poor families.

TABLE 2.6.5

CORRELATION COEFFICIENTS OF TITLE I INSTRUCTIONAL STAFF RESOURCES WITH NUMBER OF FORMULA ELIGIBLE STUDENTS (POVERTY) AND WITH NUMBER OF STUDENTS SERVED ACROSS PUBLIC ELEMENTARY SCHOOLS FOR THE 13 LEAs PARTICIPATING IN THE NIE ESEA TITLE I COMPENSATORY EDUCATION DEMONSTRATION*

LEA	N=	Correlation of Instructional Staff Resources with:	
		Number of Formula Eligible Students (Poverty) (1)	Number of Served Students (2)
Adams County	3	NC**	NC
Alum Rock	--	NA***	NA
Berkeley	10	.280	.557
Boston	61	.679	.926
Charlotte	32	.602	.475
Harrison	25	.700	.856
Houston	54	.624	.872
Mesa	13	.546	.483
Newport	--	NC	NC
Racine	11	.370	.230
Santa Fe	11	.505	.400
Winston-Salem	11	.392	.966
Yonkers	--	NA	NA

*District Title I applications provided the data for this table.

**NC = Not calculated because too few cases.

***NA = No data available.

Figure 2.6.4

NIE Title I Demonstration Compensatory Education Program-Proportional Distribution of Title I Instructional Resources Among Elementary Schools

BOSTON
1975-1976

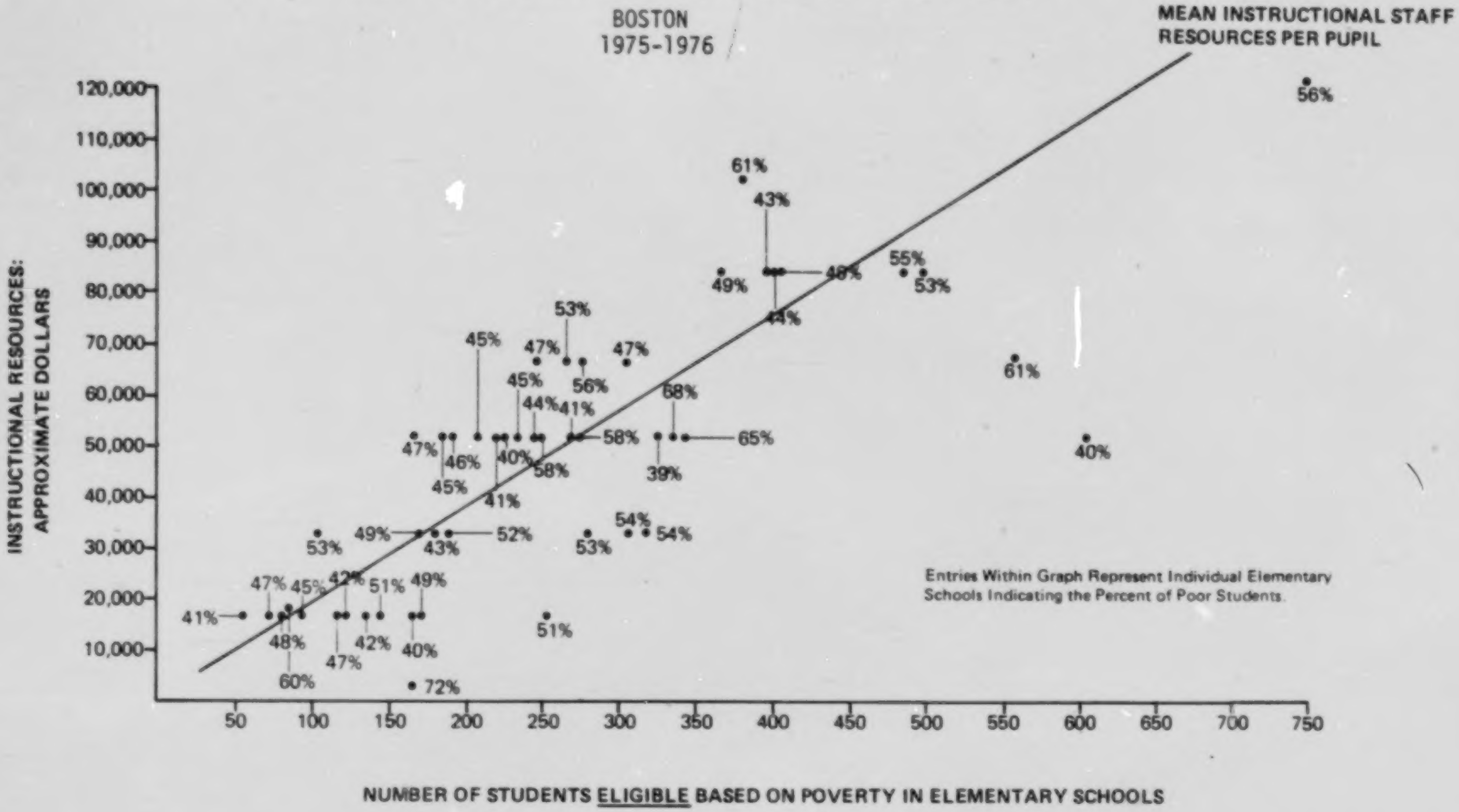
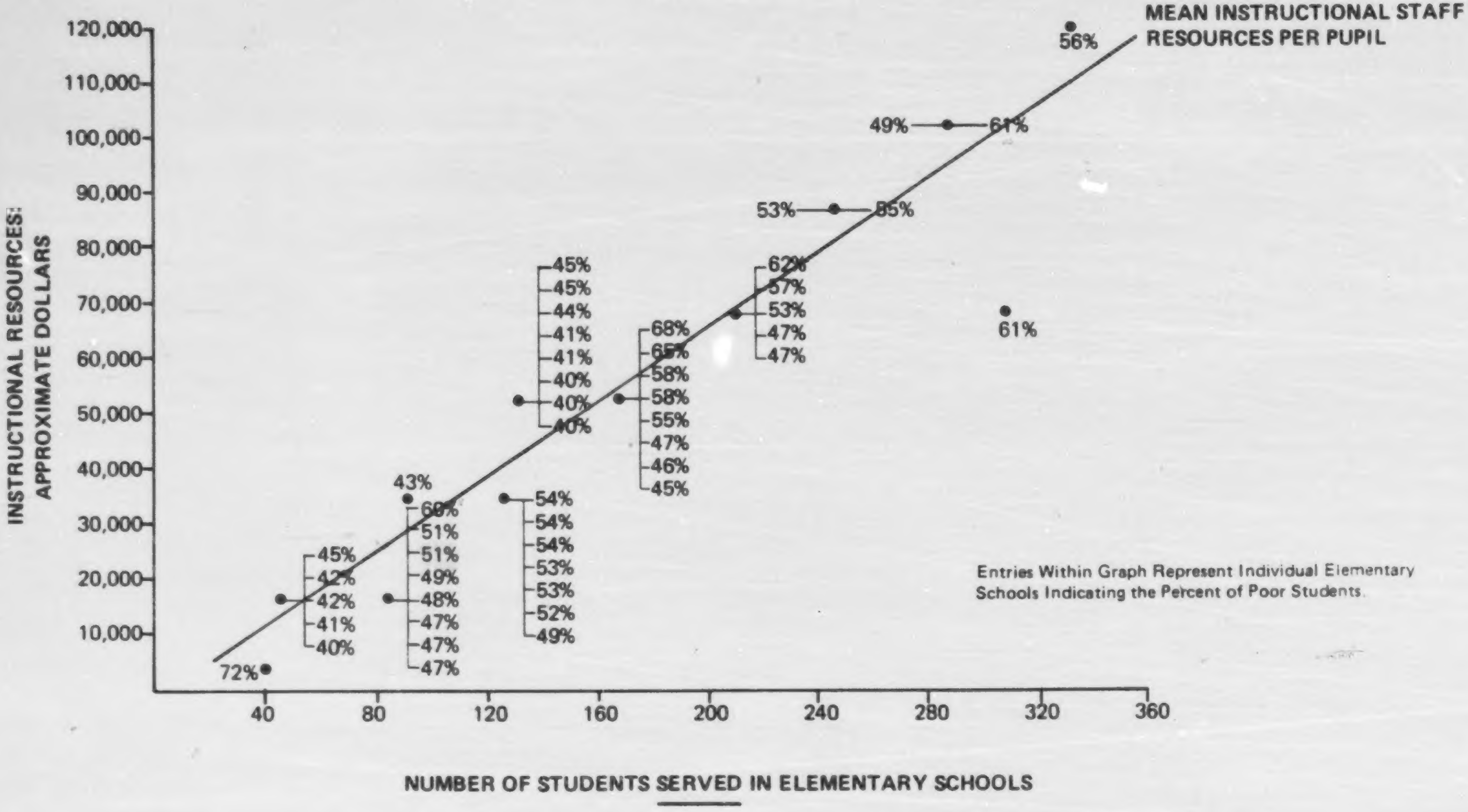


Figure 2.6.5

NIE Title I Demonstration Compensatory Education Program-Proportional Distribution of Title I Instructional Resources Among Elementary Schools

BOSTON
1975-1976



Charlotte, North Carolina, represented in Figures 2.6.6 and 2.6.7, is an LEA in which the proportional distribution of instructional staff resources is linked relatively closely to the distribution of poor students but not as closely to the number of students actually served. Thus, in Charlotte, unlike Boston, the students actually served in one public elementary school are likely to be the beneficiary of a much larger or smaller amount of resources than in another public elementary school. Table 2.6.4 indicated that Charlotte had the lowest ratio of any of the 13 LEAs of served students to formula eligible students in the LEA. Stated in somewhat different terms, the probability of a student who comes from a poor family receiving Title I services in Charlotte is lower than in the other LEAs. The probability of a given student from a poor family in Charlotte receiving different levels of Title I services than a student in another poor family in Charlotte is higher than in most other LEAs, and is in part associated with the school the student attends.

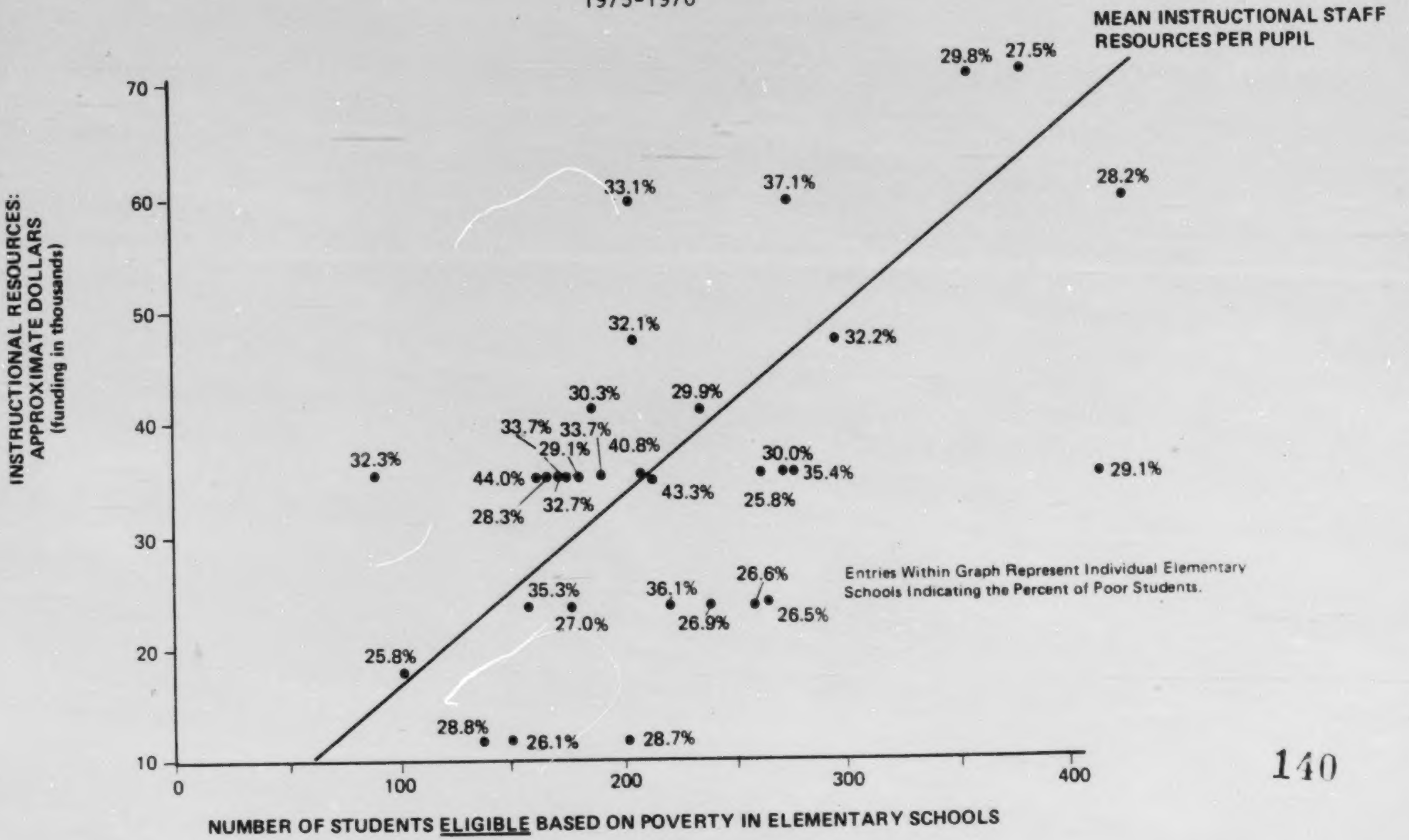
Santa Fe is illustrated in Figures 2.6.8 and 2.6.9. Both correlations illustrated by these figures are moderate. Santa Fe is a particularly interesting case because the allocation decisions were to provide essentially constant resources across all targeted schools. Thus, for Figure 2.6.8 the correlation is moderate even though the individual schools do not fall anywhere close to the slope representing the average. In Figure 2.6.9, it can be observed that even given the constant allocation of instructional staff resources across targeted elementary schools, the number of students served varies considerably from approximately 48 to about 90. Obviously, one would expect the amount of services received students in some schools to vary widely from the amount of services received by students in other targeted schools in Santa Fe.

Winston-Salem, shown in Figures 2.6.10 and 2.6.11, is also an LEA in which the correlations are moderate. However, Winston-Salem illustrates a case in which the schools fit relatively uniformly around the average slope, albeit not

Figure 2.6.6

NIE Title I Demonstration Compensatory Education Program-Proportional Distribution of Title I Instructional Resources Among Elementary Schools

CHARLOTTE
1975-1976

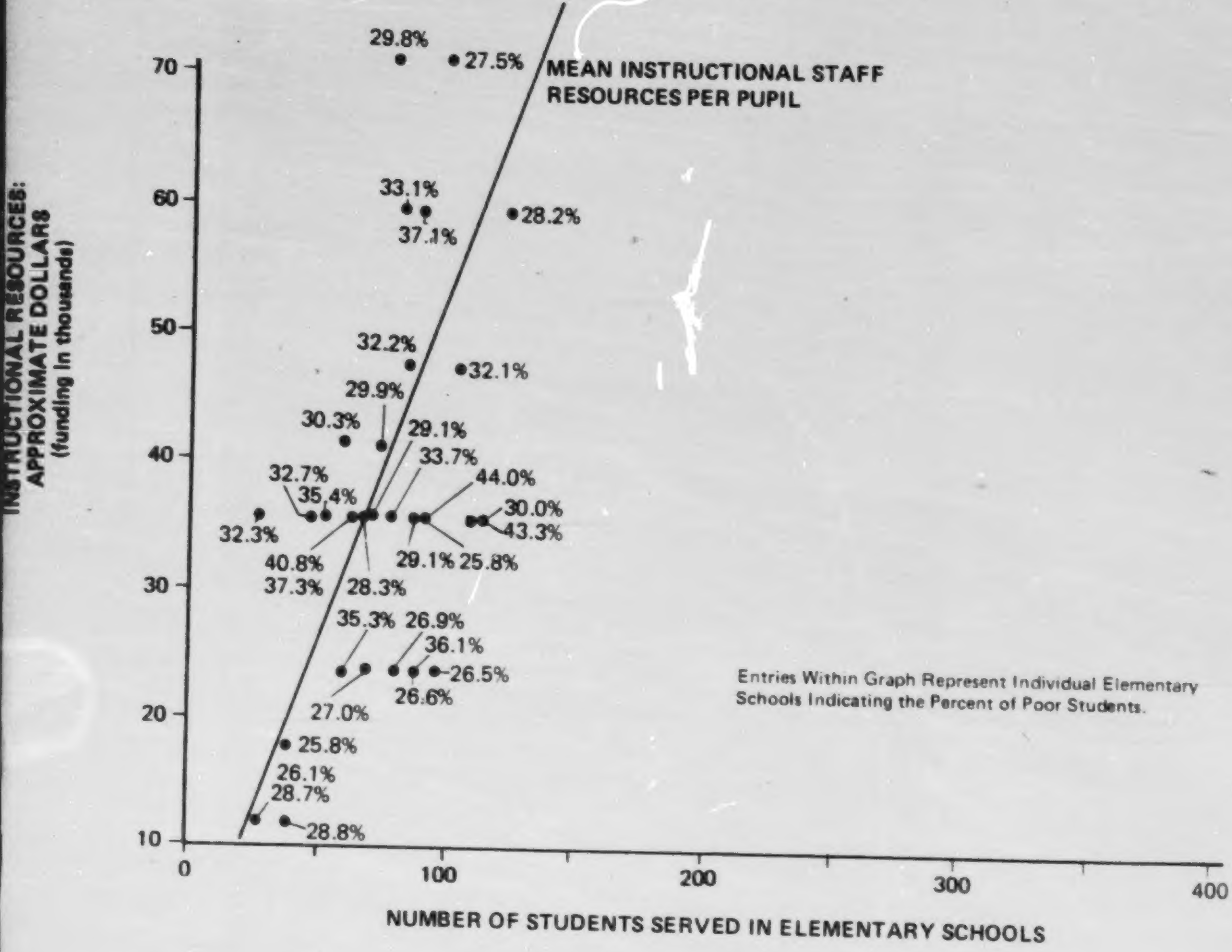


Entries Within Graph Represent Individual Elementary Schools Indicating the Percent of Poor Students.

Figure 2.6.7

NIE Title I Demonstration Compensatory Education Program-Proportional Distribution of Title I Instructional Resources Among Elementary Schools

CHARLOTTE
1975-1976



Entries Within Graph Represent Individual Elementary Schools Indicating the Percent of Poor Students.

Figure 2.6.8

NIE Title I Demonstration Compensatory Education Program-Proportional Distribution of Title I Instructional Resources Among Elementary Schools

SANTA FE
1975-1976

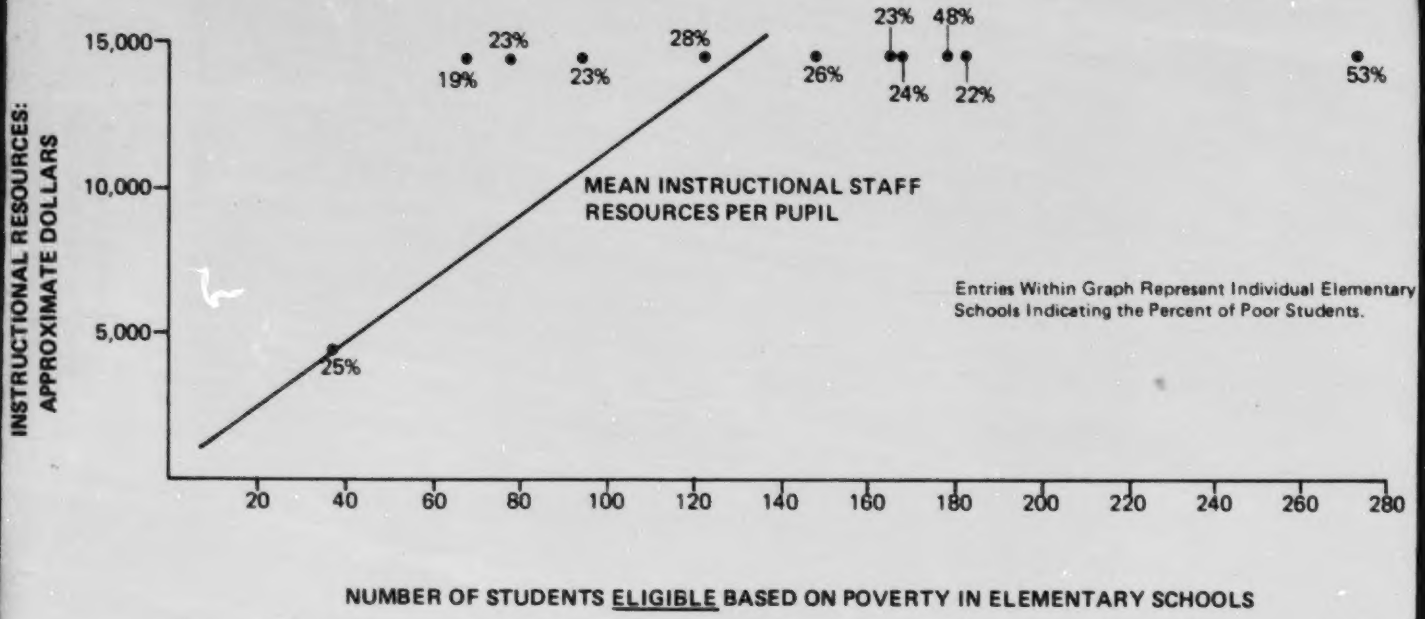
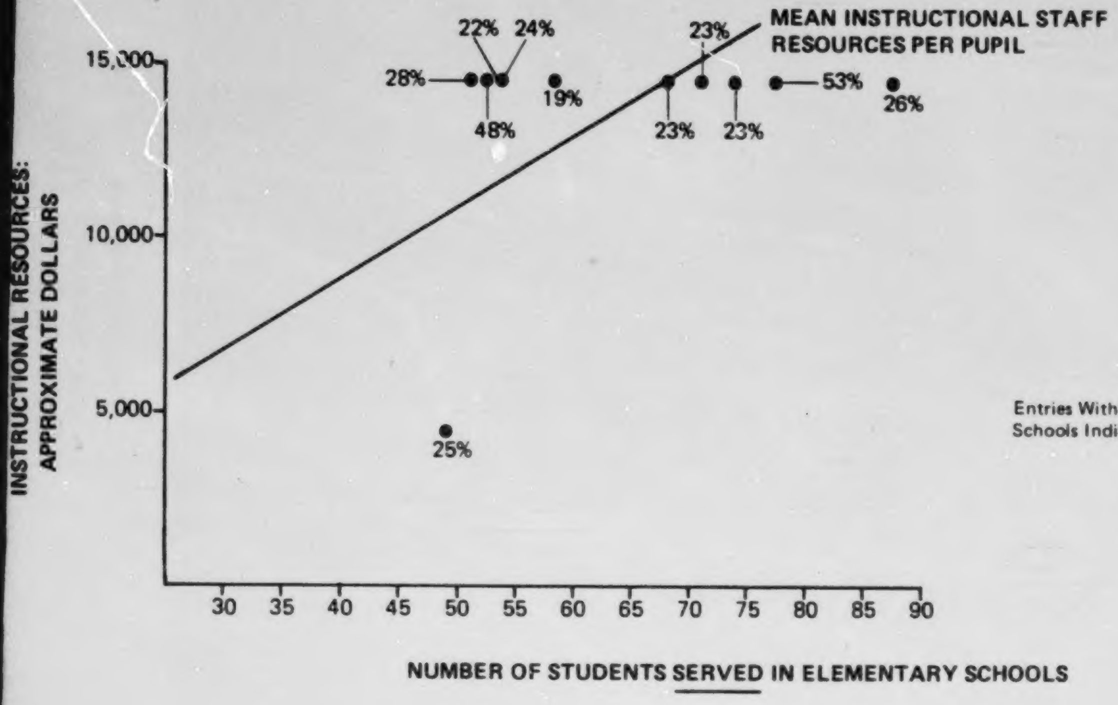


Figure 2.6.9

NIE Title I Demonstration Compensatory Education Program-Proportional Distribution of Title I Instructional Resources Among Elementary Schools

SANTA FE
1975-1976

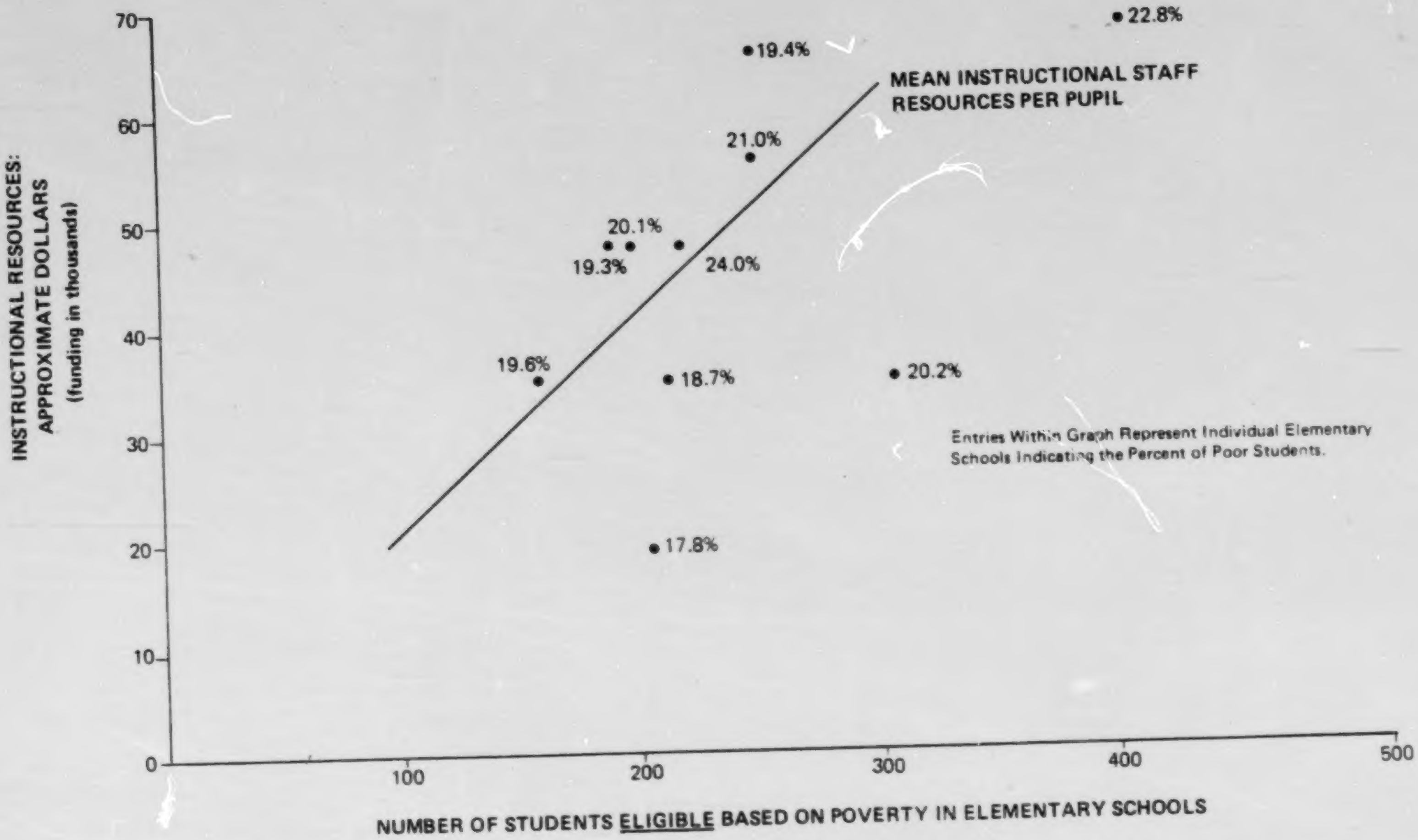


Entries Within Graph Represent Individual Elementar
Schools Indicating the Percent of Poor Students.

Figure 2.6.10

NIE Title I Demonstration Compensatory Education Program-Proportional Distribution of Title I Instructional Resources Among Elementary Schools

WINSTON-SALEM
1975-1976

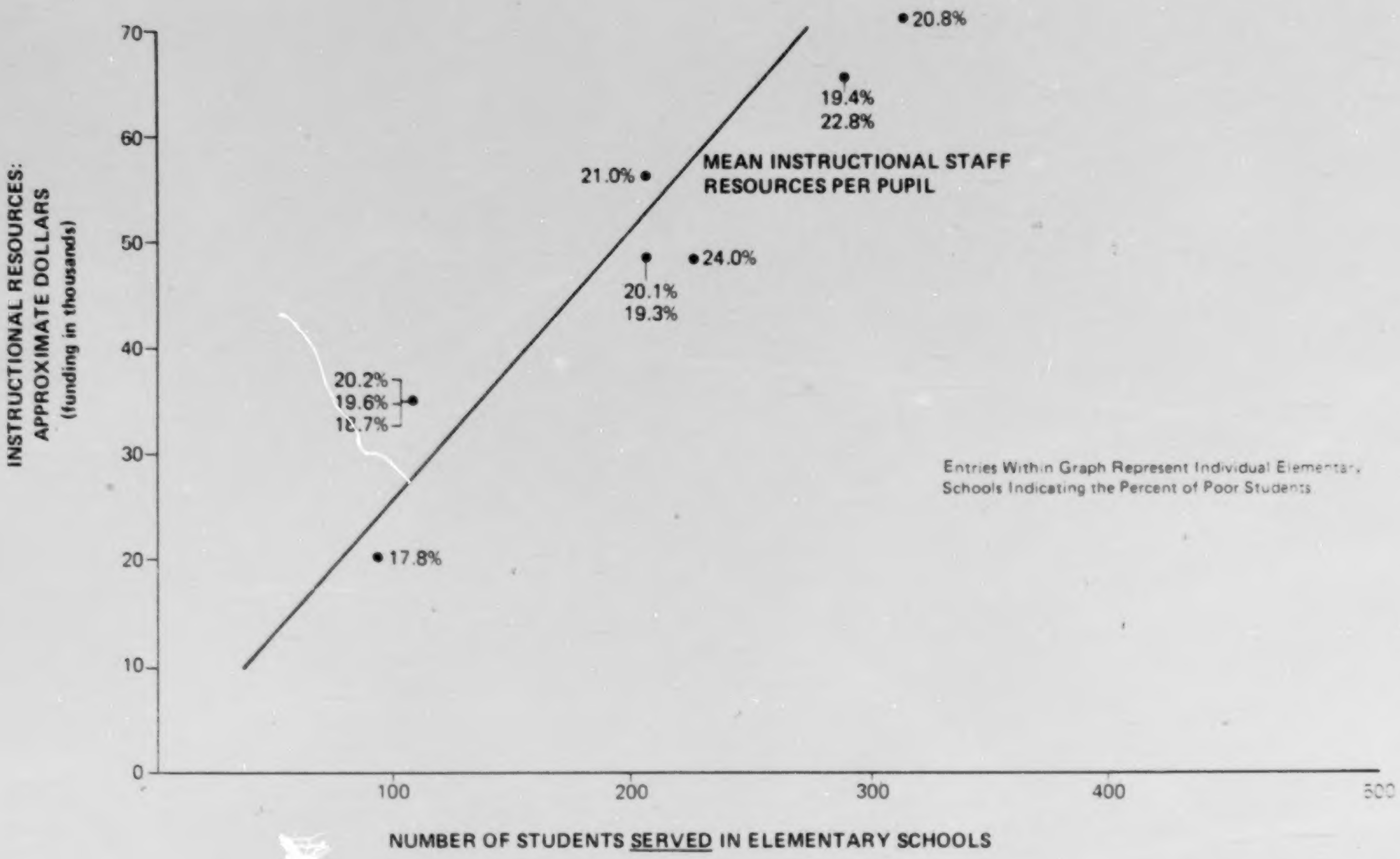


Entries Within Graph Represent Individual Elementary Schools Indicating the Percent of Poor Students.

Figure 2.6.11

NIE Title I Demonstration Compensatory Education Program-Proportional Distribution of Title I Instructional Resources Among Elementary Schools

WINSTON-SALEM
1975-1976



very closely. This is true for the correlations with both the number of formula eligible students and the number of students actually served.

The final figures presented (2.6.12 and 2.6.13) are for Racine, Wisconsin. Among the 13 LEAs, Racine has the second lowest correlation of instructional staff resources with number of formula eligible students (r = .37), and the lowest correlation of instructional resources with number of students served (r = .23). Racine is a case in which the variance in instructional staff resources per school is not great and thus a site in which the schools do cluster around the average line but not closely. It is a site in which the amount of services received by Title I targeted students in different targeted schools is likely to vary significantly.

Thus, these figures illustrate that not only do average expenditures per student differ from LEA to LEA but also the variance around these averages differ greatly from school to school. The numbers of students eligible and served are not only convenient metrics with which to measure the differences in variance around the school average, but they also are the most obvious policy standards by which to judge allocation procedures. The implementation of allocation policy is by no means uniform across these 13 LEAs. They each have addressed local problems with local solutions.

Figure 2.6.12

NIE Title I Demonstration Compensatory Education Program-Proportional Distribution of Title I Instructional Resources Among Elementary Schools

RACINE*
1975-1976

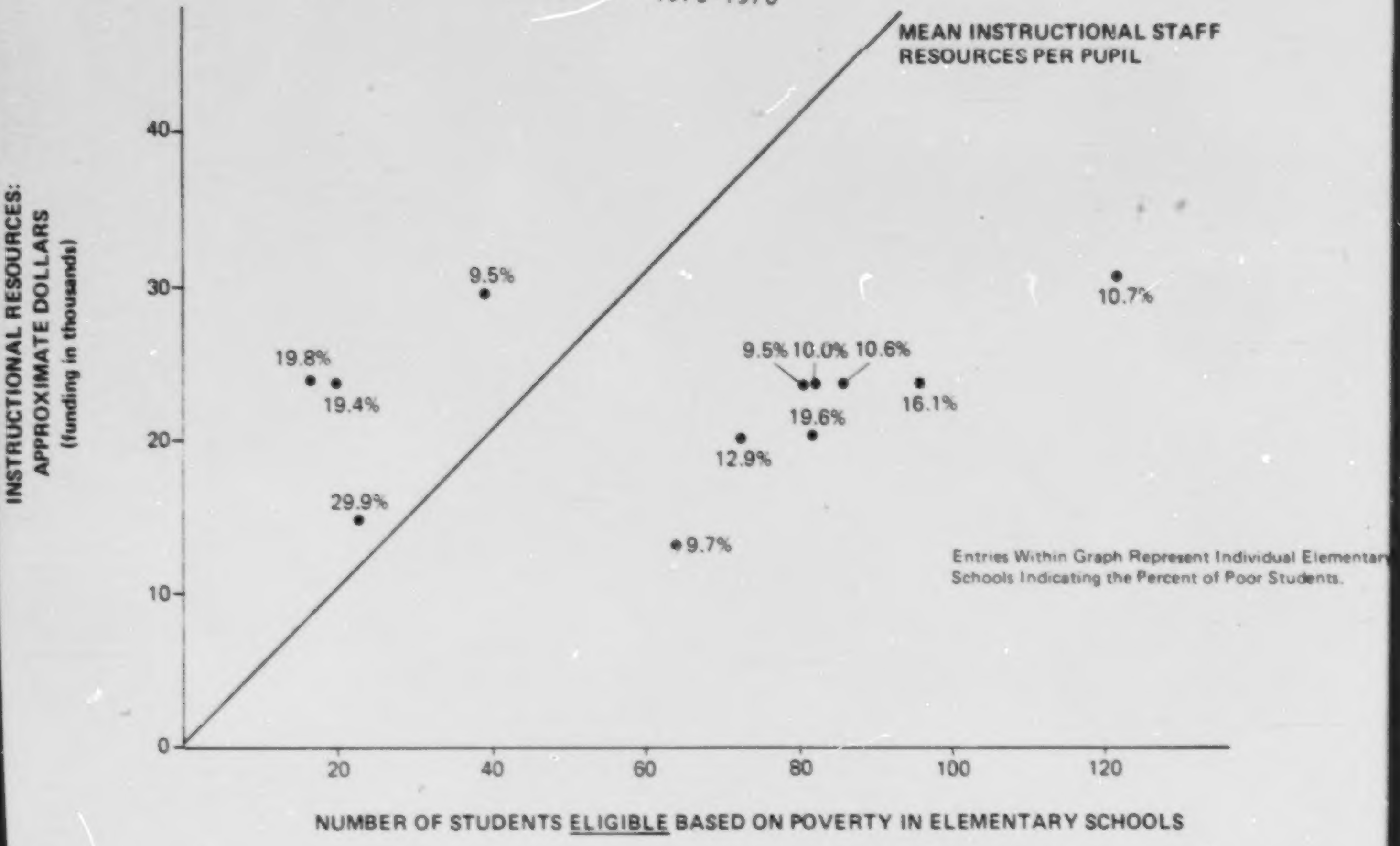
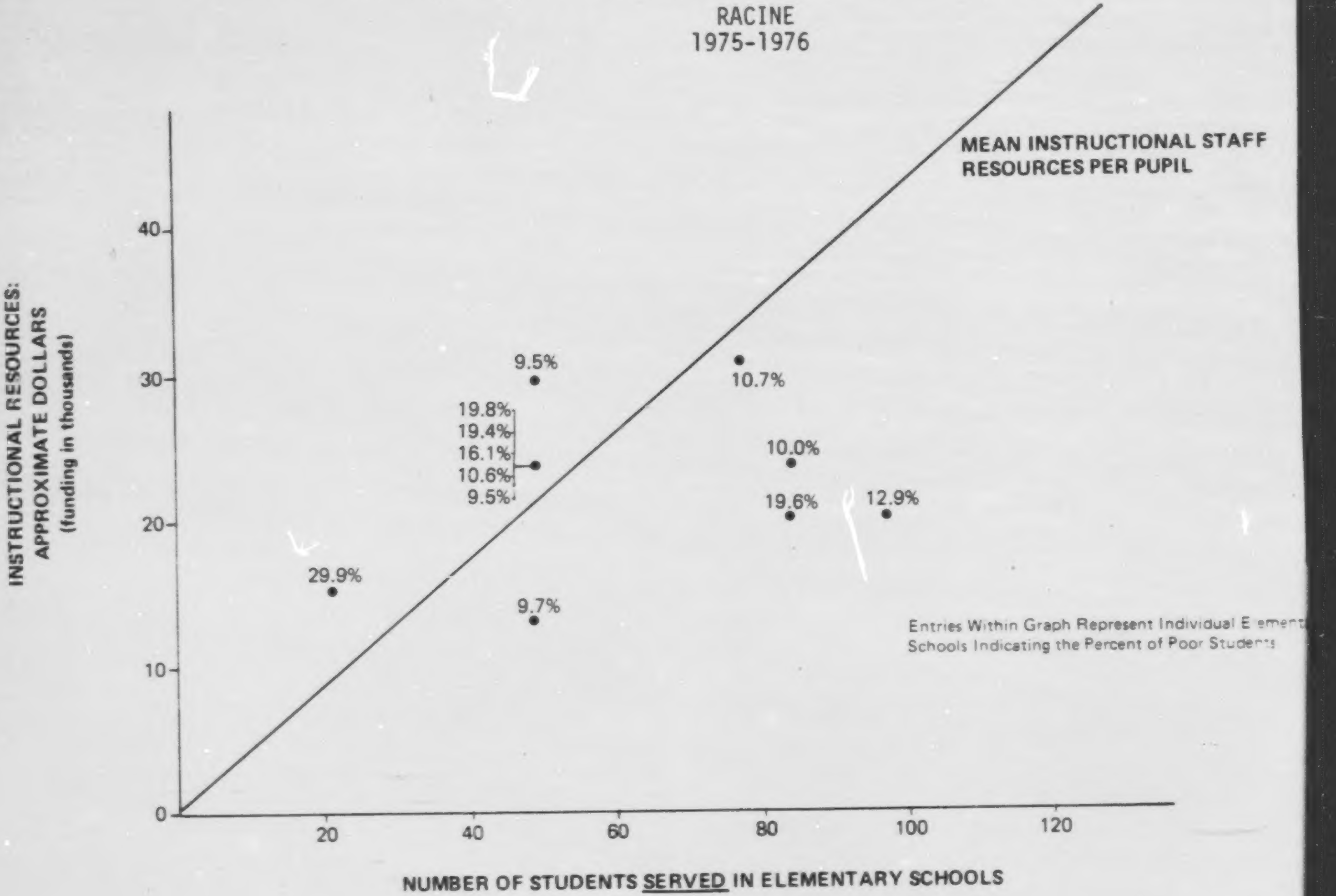


Figure 2.6.13

NIE Title I Demonstration Compensatory Education Program-Proportional Distribution of Title I Instructional Resources Among Elementary Schools

RACINE
1975-1976



2.7 Implementation Decisions: Site Summaries

2.7.1 Introduction

In the following sections we describe the changes in intra-district allocation policy resulting from the Title I Demonstration in the 13 participating districts. In addition to describing each district's allocation process for both 1975-76 and 1976-77, we also briefly discuss the district's rationale for participating in the Demonstration and for their particular approach to it. In keeping with our earlier discussion of the allocation process (cf. Section 2.1), we discuss this process as though it were comprised of a variety of sequential stages or steps. As previously described, these include procedures for determining school eligibility (stage 7), targeting or selecting schools to be served from among those eligible (stage 8), distributing resources to targeted schools (stage 9), determining the eligibility of students (stage 10), targeting or selecting students to be served from among those eligible (stage 11), and the proportional distribution of resources to students according to need (stage 12).

The discussions which follow are based primarily on documents provided by the districts and on interviews of key Title I and Demonstration Project staff within the 13 districts. Documents provided to us by NIE and the districts included: The Demonstration Planning Proposal which the districts submitted to NIE in the late spring of 1975; quarterly reports which the districts submitted to NIE during the 1975-76 school year; the Demonstration Implementation Proposal which districts submitted to NIE in the late spring of 1976; various addenda to the proposals resulting from questions asked by NIE; and district Title I applications for both the 1975-76 and 1976-77 school years. Subsequent to a careful review of these documents, each of the 13 districts was visited by a research team which included at least one member of the senior research staff. During the course of this visit key district staff (including, where appropriate, the Title I Project Director, the local Demonstration Project Director, local Title I and Demonstration Project staff, directors of testing and evaluation, and others involved in the development of the Implementation Plan) were interviewed concerning those aspects of the intra-district allocation process which were not clearly described in project documents.

Given this information, a draft description of the changes in intra-district allocation was developed for each district. This description was then forwarded to the local Demonstration Project Directors for substantive review.* The discussions which follow, therefore, reflect both the districts' and our understandings of their respective intra-district allocation process and the changes in that process that were brought about by the Demonstration.

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*In Racine and Yonkers draft descriptions were reviewed by the respective Demonstration Project Director during a site visit.

2.7.2 Changes in Intra-District Allocation Policy Resulting from the Title I Demonstration Project in Adams County, Colorado

2.7.2.1 Allocation Policy 1975-76

School eligibility for the 1975-76 program year was based solely on the AFDC status of students attending each school. Both the number and percentage of low-income students attending each school were compared with a district-wide average number of low-income students per school (42) and a district-wide average percentage per school (5.7%). Those schools in which the percentage of low-income students enrolled exceeded the district average were deemed eligible for services.

School targeting was based, in general, on the number of low-income students enrolled in each of the eligible schools. Elementary, junior high, and senior high schools were ranked separately, as the established district policy was to serve at least some of the eligible schools at all grade levels. No firm cut-off points were used to select schools from among those eligible. The three elementary schools (of five eligible) with the greatest number of low-income students were selected; two junior high schools (of four eligible) were selected in the same fashion. Neither of the two senior high schools in the district was eligible when the percentage of low-income students in attendance was compared with the overall district-wide average. When a low-income average was computed on only senior high school students, however, one school emerged eligible. This school was selected to receive services.

Resource allocation across schools was fairly uniform. Each selected school was allocated one FTE teacher and one FTE aide (an additional .5 FTE aide was provided to the senior high school). These staff operated the reading/language arts component of the program which was entitled "Pupils Advancing in Learning (P.A.L.)." In addition, a .5 FTE aide and one FTE aide were provided for the mathematics component of the program at the one elementary and one junior high school, respectively, which were served.

Student eligibility for the P.A.L. program was generally determined by scores on the Comprehensive Test of Basic Skills (CTBS), a standardized achievement test administered to program participants in September 1975. The 50th percentile was set as a cutoff score for eligibility. In fact, these test scores served to validate a student's participation in the program, as Title I classes had already been underway before testing took place.

Student targeting at the first level was determined by teacher recommendation--based on the student's class performance the previous year, grades, previous test scores, etc. Subsequent testing results were used to confirm student placement and generally overrode teacher recommendation where the two were in conflict. Priority was given to the "neediest" children as determined by available test scores and teacher judgment. In some cases (the LEA estimated possibly 5-10% of the children served) students who scored above the 50th percentile cutoff were served, based on teacher recommendation. These decisions were not made unilaterally. The principal, classroom teachers, Title I teacher, district-level reading administrator, and school social worker or counselor were generally all involved in the ultimate selection of students and in deciding whether or not to serve students whose eligibility, as defined by a test score, was questionable.

The breakdown of services provided by Title I in 1975-76 was as follows:

Reading/Language Arts Program

3 elementary schools
2 junior high schools
1 senior high school
2 non-public schools (grades 1-12)

Mathematics Program

1 elementary school
1 junior high school

The total number of students served for 1975-76 included quite a few students who were involved in the program for less than a full school year. The LEA estimate of FTE students actually served during this year was 312 across all grade levels.

2.7.2.2 Development of Allocation Policy from Application to Implementation

Adams County's participation in the Demonstration was based on three major concerns regarding the federal regulations governing allocation of Title I programs:

1. Poverty criteria discriminate against populations of students who may be equally needy academically, but cannot receive compensatory education services because not enough "poor" students attend their school.
2. The nature of Adams County's attendance area structure is such that elementary schools which are ineligible by poverty criteria feed students to junior high schools which are eligible. Therefore, some students have to wait until they reach junior high school to receive Title I services, by which time their educational problems are more severe.
3. Adams County's school population is fairly mobile, so that many children who may have been receiving Title I services in one school lose those services when they move to another school within the district.

Basically, participation in the Demonstration would allow Adams County to focus its compensatory education on all children with educational need during the first years of their school experience, thus possibly correcting educational deficiencies before they become too severe to be treated.

The original plan submitted by Adams County #12 to NIE proposed a shift in allocation of services from a pyramidal structure (serving grades 1-12 with the concentration in the lower grades) to a lateral structure (serving grades 1-3 evenly). Services to secondary schools would be eliminated, while the elementary program would be extended to grades 1-3 in all 16 elementary schools. The average funding level per school would drop from $23,538 to $8,826 under the new structure. Student eligibility would be determined by a 25th percentile cutoff score on the CTBS; any school with eligible students would be eligible for service. In addition, the plan proposed that all eligible students be served and estimated an increase from 581 students in all grades (the number served in 1975-76) to between 850 and 1,000 children in grades 1-3. The proposed program would focus on the reading component and eliminate the mathematics component of the 1975-76 program. The planning process served to refine and clarify the concerns and plans presented during the application phase and did not lead to any major revisions of these plans.

2.7.2.3 Allocation Policy 1976-77

School eligibility for 1976-77 was determined very simply: any school which had grades 1-3 and at least one eligible student was considered eligible to receive Title I services. A needs assessment conducted during the fall of 1975, in combination with CTBS scores from 1974-75, provided a rough estimate of the number of low achieving students in grades 1, 2, and 3 in each school. These numbers provided a guideline for determining allocation within schools. All eligible schools were targeted.

The original allocation of resources across schools, as developed by School Level Task Forces during the planning year, targeted a .5 FTE teacher for each school (these teachers were to be split-funded with the LEA) and a .5 FTE aide for each of nine schools. However, during the course of negotiations with NIE during the summer of 1976, Adams County was required to adjust its staffing allocation to the 16 participating schools to more closely match the number of staff with the number of students to be served within each school. As a result of these negotiations, staff allocations were modified so that the various schools received between .16 FTE to .83

FTE teachers each. The allocation of .5 FTE aides to the nine schools with the greatest number of students to be served was not changed.

Student eligibility was determined by performance on the Gates-MacGinitie Reading Test administered to all students in grades 1-3 in October 1976. The 25th percentile was set as a cutoff, so that only those students scoring in the lowest quarter were considered eligible. Since students had been assigned to Title I classes prior to the testing date, however, test scores served only to validate student selection for the program.

Student selection procedures differed little from 1975-76 procedures. The judgment of classroom teachers (in conjunction with that of the principal, Title I teacher, and other relevant school staff) was used to identify the lowest achieving students in each grade based on previous class performance, available test scores, and so forth. These students were informally ranked within schools. From among eligible students, the lowest 55% would be selected to receive Title I services. The remainder of the grade 1-3 students eligible for Title I would be served through an LEA-funded program. This program supports the fraction of the reading teacher's time not covered by Title I. It was expected that some small number of students (less than 10%) pre-selected for Title I services on the basis of teacher judgment, would prove ineligible by later test scores. In these cases, teacher judgment (if appropriately documented) would generally override test scores. In all, 16 elementary schools, serving roughly 693 FTE students in grades 1-3, are projected to receive reading/language arts services in 1976-77.

2.7.2.4 Summary and Conclusions

Tables 2.7.2.1 and 2.7.2.2 summarize the changes made by Adams County as a result of the Demonstration. As can be seen, changes were made at all stages in the allocation process: in school eligibility and targeting, in student eligibility and targeting, and in resource distribution across schools. The decision to bypass schools in the determination of student eligibility and thus serve all elementary schools, however, was perhaps the most significant change. It was accompanied by a dramatic shift in program orientation from a remedial program serving grades 1-12 to an early intervention program serving grades 1-3.

TABLE 2.7.2.1

CHANGES IN INTRA-DISTRICT ALLOCATION CRITERIA
RESULTING FROM THE TITLE I DEMONSTRATION PROJECT

Adams County #12, Colorado

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	1) # AFDC students enrolled in school determined 2) # AFDC ÷ #children in attendance area = percent poor 3) Mean percent poor in district= 5.7 4) All schools above grade span percent poor eligible	1) All schools serving grades 1-3 and with a minimum of 1 eligible student	Direct LEA to student allocation
SCHOOL TARGETING	1) Schools ranked on the basis of percentage poor, separately by grade span 2) No formal cut-off applied 3) Top ranked schools served at each grade level, insofar as funds allowed	1) All eligible schools served	From concentration on a limited # of eligible schools to serving all eligible schools
STUDENT ELIGIBILITY	1) For elementary and secondary reading and math, cutoff of less than or equal to 50% on the CTBS administered in Sept. (In addition, district criterion referenced tests and teacher judgment are taken into consideration	1) Cutoff of less than or equal to 25% on Gates-MacGinitie reading test administered in October. (In addition, teacher recommendations are taken into consideration.)	1) Change in test used 2) Change in cutoff level, from 50% to 25%
STUDENT TARGETING	1) Priority given to the "neediest" based on test scores & teacher judgment 2) In rare cases students scoring above 50% were served based on teacher recommendation, approved by principal, Title I teacher and others	1) Priority given to the neediest students as in 1975-76 2) In rare cases, students scoring above the cutoff level will be served in accordance with teacher recommendation 3) Title I serves lowest 55% of eligible students; LEA serves remainder	No change in targeting at student level except that only 55% of eligible students to be served by Title I
RESOURCE DISTRIBUTION	1) 1 FTE teacher and 1FTE reading aide per elementary and secondary school 2) One .5 FTE math aide at one elementary school and 1 FTE math aide at one junior high school	1) Based roughly on number of students served per school	In 1976-77 resource distribution more closely parallels student distribution across schools
PROGRAMMATIC EMPHASIS	1) Reading grades 1-12 2) Math grades 2-9 (The program stresses remediation in grades 2-12. Few grade 1 students are served.)	1) Reading only in grades 1-3	Shift from remedial program emphasis across subjects & grades to narrow, early intervention and remediation in grades 1-3. (The primary focus of the program remains remedial, however.)

TABLE 2.7.2.2

CHANGES IN SCHOOL AND STUDENT ELIGIBILITY AND TARGETING RESULTING FROM CHANGES IN ALLOCATION CRITERIA

Adams County #12, Colorado

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	5 Elementary 4 Jr. high 1 Sr. high 2 Non-public*	16 Elementary 2 Non-public**	11 Elementary schools added 5 other schools dropped
SCHOOL TARGETING	3 Elementary 2 Jr. high 1 Sr. high 2 Non-public*	16 Elementary 2 Non-public**	13 Elementary added 2 Jr. high dropped 1 Sr. high dropped
STUDENT ELIGIBILITY	not available	1065 Elementary (1-3)	No basis for comparison
STUDENT TARGETING	312 FTE students across all grade levels	693 FTE students in grades 1-3	Number, i.e., FTE, of students served expected to double

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*These 2 schools are non-public schools in another district (Adams Co. #1); their TI program is jointly funded by the TI programs in the adjacent school districts which feed them.

**One of these schools is in Adams Co. #12 school district; the other is in Adams Co. #1. Their Title I program is jointly funded by the Title I programs in the adjacent school districts which feed them.

2.7.3 Changes in Intra-District Allocation Policy Resulting from the Title I Demonstration Project in Alum Rock, California

2.7.3.1 Allocation Policy 1975-76

Alum Rock, California, is unique among the LEAs participating in the Demonstration and perhaps among LEAs in the United States, as it is in one of three states with consolidated funding for compensatory programs and it has been the test district for NIE's School Voucher Experiment for the past five years. The proportion of poor students (36% receive AFDC) and the proportion of students who are educationally disadvantaged (84%) are both very high. The Alum Rock Elementary School District is part of the city of San Jose; although it is a relatively small district with 24 elementary schools and 15,000 students, it received a Title I grant of $994,145 in 1975-76 ($817,319 in current funds and $176,826 in carry-over funds).

In 1975-76 Alum Rock determined total compensatory funds using California State Education Department procedures for consolidated funding. In this way, compensatory funding was based on the number of students classified as educationally disadvantaged youth (or EDY) in each school (those scoring below the 50th percentile on the Metropolitan Achievement Test (MAT)). The 12 schools which had more than 36% of their students receiving AFDC were designated as Title I schools and their compensatory funding was listed as Title I. The support for compensatory activities in non-Title I schools was allocated from one or more of the state or other federal compensatory programs.

The services provided by Title I and by the various other federal and state compensatory programs were essentially the same. Of course, such a statement must be qualified by the fact that the similarity of these services was defined generically. The variation in curriculum and in specific teacher practices was enormous. This was due to various factors: decentralization of needs assessment and program planning, prescriptive-diagnostic curriculum planning, and the Voucher Demonstration mini-school organization.

The Title I program in Alum Rock in 1975-76 was the only program among the LEAs in the study in which there was no "pull-out" of students from regular classrooms to separate labs or other instructional settings. The programs were mostly instructional and mostly aimed at reading and mathematics. All instruction took place within the regular classroom setting.

LEA policy was that only EDY students would receive such instruction. Rosters of EDY students were distributed to schools and students with instructions that only these students were to receive compensatory instruction. This instruction was provided primarily by trained aides and through the intervention of resource teachers.

2.7.3.2 Development of Allocation Policy from Application to Implementation

There were four explicit components to Alum Rock's proposal:

- the distribution of Title I services to all schools;
- the pairing of schools--half of which target services to EDY students and half of which provide services to all students;
- increased efforts at parent involvement;
- an incentive program providing supplementary funds to schools which show results.

During the planning year, several developments took place which influenced the nature of Alum Rock's Demonstration implementation. It became clear that the Demonstration Voucher Program would no longer be supported with federal funds. Other funding sources were being reduced. Many options for changes in concentration of all compensatory services were reviewed by the administrative staff--ranging from intensive concentration with per pupil expenditures three to five times as large as were in practice during 1975-76 to randomization--but most were dismissed for being administratively impractical. After long deliberation, the Alum Rock administrative staff opted for a very limited implementation of saturated compensatory services in selected schools. After negotiations with NIE, saturated services were implemented in one-half of the schools. All schools were matched based on student characteristics and other factors. Then, one school from each matched pair was randomly chosen.

2.7.3.3 Allocation Policy 1976-77

The most significant change in the Compensatory Education Demonstration is, first, to randomly divide all schools (Title I and non-Title I) into two groups, and, secondly, to saturate services in one group and to provide "concentrated" services in the other group. The groups are referred to as "saturation schools" and "concentration schools."

This change requires a significant investment in teacher training and development. The strategy of conducting compensatory instruction in the regular classroom with the help of aides will be maintained. Training is aimed at implementing a documentation system describing the students served and the services provided.

Other features of the allocation system in Alum Rock have changed. All schools will receive Title I funds regardless of percentage of students receiving AFDC. School targeting will be the same as school eligibility. The proportional distribution of services to schools will continue to be based on the number of students designated as EDY. However, a 15% reserve was held back in the spring of 1976 so that funds could be adjusted based on actual fall enrollment rather the spring projections. The proportional distribution of services to students will undoubtedly change, and distribution within concentration schools will differ from that of saturation schools. The nature of the change for the concentration group is being developed and the procedures are expected to be more uniform than those of the saturation schools.

2.7.3.4 Summary and Conclusions

Tables 2.7.3.1 and 2.7.3.2 summarize the changes made by Alum Rock at each stage of the allocation process. As can be seen, student selection procedures, rather than school eligibility and targeting decisions, are the primary focus of this Demonstration. Alum Rock provides a special opportunity to test the efficacy of a saturation approach to the provision of compensatory services.

TABLE [illegible]

CHANGES IN INTRA-DISTRICT ALLOCATION CRITERIA
RESULTING FROM THE TITLE I DEMONSTRATION PROJECT

Alum Rock, California

ALLOCATION DECISION	SCHOOL YEAR, 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	1) Schools with [illegible] of students receiving AFDC	1) All schools	Waiver of school eligibility regulations
SCHOOL TARGETING	1) All eligible schools	1) Half of all schools targeted for concentrated services 2) Half of all schools targeted for saturated services	Concentrated services to 1/2 schools
STUDENT ELIGIBILITY	1) All educationally disadvantaged youth (EDY)	1) All educationally disadvantaged youth (EDY) in concentrated schools 2) All students in saturated schools	No change
STUDENT TARGETING	1) Informally done in classroom by teachers and aides using LEA-provided rosters	1) Only EDY targeted in half of schools 2) All targeted in half of schools	Formal selection procedures in concentrated waiver on student selection
RESOURCE DISTRIBUTION	1) Uniform allocation on basis of number of EDY students	1) Uniform allocation	No change
PEDAGOGIC EMPHASIS	1) Program offered in classroom setting, primarily reading and mathematics	1) Same as in 1975-76	No change

TABLE 2.7.3.2

CHANGES IN SCHOOL AND STUDENT ELIGIBILITY AND TARGETING RESULTING FROM CHANGES IN ALLOCATION CRITERIA

Alum Rock, California

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	9 of 19 elementary schools (K-6) 3 of 6 middle schools (6-8)	18 Elementary (K-6) 6 Middle (6-8)	9 Elementary added 3 Middle schools added
SCHOOL TARGETING	9 of 9 eligible elementary schools targeted 3 of 6 eligible middle schools targeted	18 of 18 eligible elementary targeted 6 of 6 eligible middle schools targeted	9 elementary added 3 middle schools added
STUDENT ELIGIBILITY	EDY = Students scoring below 50th percentile on MAT	85% EDY 11780 = Total 5006 in Title I schools	All students in saturated schools
STUDENT TARGETING	Policy of only serving EDY students; total of 5890 served	2503 Receive concentrated services 2945 Receive saturated services	2945 will receive saturated services for the first time

2.7.4 Changes in Intra-District Allocation Policy Resulting from the Title I Demonstration Project in Berkeley County, West Virginia

2.7.4.1 Allocation Policy 1975-76

School eligibility for Title I was determined by means of the state-mandated Aid to Families with Dependent Children (AFDC) survey. In early winter of 1975, the annual county-wide survey was conducted to identify by name all AFDC children. The state report developed from this survey was forwarded to the district Title I office late in April. The Title I staff then met with each school principal to determine the number of children by school attendance area who come from families receiving AFDC support. The ratio of AFDC children to the total projected number of children in the school attendance area was calculated to determine a poverty ratio for the school. All schools having a poverty ratio above the district average (5.0%) were eligible for Title I services. Ten of the 13 elementary schools in the district were eligible.* (Since the district placed emphasis on early remediation and served only the elementary schools, eligibility of secondary schools is not discussed here.)

All ten of the eligible elementary schools were targeted. In addition, the one special education center received Title I support in the form of one teacher and one aide.

Taking into account both the services available from ESAA and the availability of space, Title I monies were allocated to schools at a rate of approximately $300 per projected Title I participant. The number of participants was estimated on the basis of prior experience of the schools, the Title I program, and the district in general. Using Title I funds alone, four schools received permanent reading/mathematics labs and classroom aides; two schools shared a mobile lab and classroom aides; and three schools received classroom aides only. (Of the latter three, two housed ESAA labs, while one had no space for a lab.) In addition, Title I provided one-half of a lab (ESAA provided the other half) and classroom aides for one school.

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*Counting Inwood (K-1) and Valley View (grades 2-6) as two schools in 1975-76 yields 13 elementary schools. The addition of a new school (Tuscarora) yields a total of 14 schools in 1976-77. For the purposes of this and subsequent reports, Inwood-Valley View will be counted as two units, and Tuscarora Elementary will not be counted for the 1975-76 school year.

Student eligibility and targeting were initially determined by teacher-principal referral. All targeted students were tested in October 1975 using the Comprehensive Test of Basic Skills (CTBS) in order to validate their eligibility and establish a priority listing of participants based on severity of need. The eligibility criterion for grade 2 was three months or more below grade level on the reading and/or math subtests; for grade 3, four or more below grade level; for grade 4, five months or more below grade level; for grade 5, six months or more below grade level; and for grade 6, seven months below grade level. In practice, few if any changes in participant status, as determined by teacher-principal referrals, were made based on the CTBS results.

2.7.4.2 Development of Allocation Policy from Application to Implementation

On May 27, 1975, Berkeley County submitted a proposal that focused on changing the criteria by which students were selected, and on attempting to involve participants' parents in improving the learning skills of their children. As its rationale for participating, Berkeley stated that there were "major discrepancies" between the AFDC survey and actual population patterns. Further, they cited problems with locating AFDC children whose last name differed from their parents'. This basic dissatisfaction with the validity of the AFDC survey as a reflection of student needs, coupled with a desire to develop and implement a testing program for the diagnosis, prescription, and evaluation of instruction, appears to have been the rationale for Berkeley's participation. The district sought to use the planning grant to develop a program of efficient management for individualized instruction and to develop methods of "charting the progress" of participants from selection through remediation and return to the classroom.

In a June 19, 1975, response to a series of questions asked by NIE, Berkeley stated that the projected change in school eligibility criteria would enable expansion of Title I to all 13 of the district's elementary schools. This expansion, coupled with the anticipated individualization of service, was expected to result in at least a 50% increase in the number of students to be served. It was anticipated that as children's academic deficiencies were remediated, and children no longer needed service, space for additional children would be made available.

During the planning year, Berkeley County employed the Human Resources Research Organization (HUMRRO) as consultants to assist in the development of the Demonstration design. Working with HUMRRO and district Title I staff, the Demonstration Project staff developed an implementation plan which substantially restructured the management of instruction in the Title I program. A variety of published instructional management systems was carefully explored and assessed, along with the various diagnostic and evaluative testing packages (both norm- and criterion-referenced). Essentially, the planning process served to refine and develop the district's application plan. The process also served to clarify and correct the district's initial misimpression that funding levels would be increased to permit expansion of labs into all elementary schools.

In summary, the Demonstration seems to have been perceived by the district as an opportunity to develop and implement a sophisticated, criterion-referenced, diagnostic-prescriptive, evaluative approach to the management of individualized instruction. As a result of the changes in school eligibility criteria, which resulted in the inclusion of all elementary schools in the Title I program, a 50% increase in the number of students served was envisioned.

2.7.4.3 Allocation Policy 1976-77

The Berkeley County implementation plan bypassed the issue of school eligibility per se. The district focused on serving all elementary children who met academic criteria, regardless of which school they attended. In effect, the district declared all elementary schools eligible by simply ignoring the question of school eligibility.

Due to the lack of additional Title I funds, however, the existing Title I program of reading/math labs could not be expanded to serve all elementary schools. Thus, the district chose to maintain the existing labs, i.e., hold services constant, rather than revise the program and redistribute resources across all elementary schools. Only one new lab has been created at the one school, Tuscarora. Hence, the Berkeley Demonstration concentrates on maintaining (and establishing) permanent reading/math labs in eight schools. Of these permanent labs, two are funded solely by ESAA, one by ESAA and Title I, and five by Title I alone. (Title I provides aides to the two schools with ESAA labs.)

Six elementary schools have been designated by the district as control schools for the purposes of the Demonstration. While these schools do not maintain labs, three do receive Title I services in the form of classroom aides. One of these three also receives service from a part-time mobile lab.* The remaining control schools do not receive any Title I services. In sum, Title I provides services to 11 schools; however, only eight of these are considered experimental or Demonstration schools.

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*The part-time mobile lab will be placed at two schools, Valley View and Berkeley Heights, during 1976-77. However, since it will remain at Valley View for only two months of the year, for the purpose of this report the lab is counted at one school (Berkeley Heights). Further, 1976-77 marks the first time these two schools have received the mobile lab. In 1975-76, the lab was located at Bunker Hill and Marlowe Schools.

Only students in grades 2-5 will be served as part of the Demonstration.* (Grade 1 children who have been retained for a second year will participate in Title I, but will not be considered part of the Demonstration. Student eligibility is determined by scores on the reading and math subtests of the CTBS, administered in the spring of 1976 to all pupils in grades 1-5. Students are served in priority order, depending on severity of need. Students scoring at or below the 40th percentile in reading and at or below the 27th percentile in mathematics are served first. As this group is remediated and slots in the Title I program become available, students scoring above the 40th and 27th percentiles but below grade level are admitted to the Title I program. These students are also served in order of need with those farthest below grade level given priority. An IQ test is administered along with the CTBS. All children with an IQ of 70 and below are excluded from Title I participation, since they qualify for special education services.

A criterion-referenced test is administered as a diagnostic to all participants. Remedical instruction is then prescribed and progress monitored through the use of additional, appropriate criterion-referenced tests. When a child has completed all prescribed instuction successfully, as measured by the appropriate criterion-referenced tests, he or she is returned to the classroom, and the position is open to the next child in order of priority. In contrast to 1975-76, teacher judgment plays no part in participant selection.

2.7.4.4 Summary and Conclusions

Under the Demonstration, Berkeley County switched from a poverty criterion for selecting schools and an academic criterion for distributing funds to an academic criterion with focus on students. Eleven elementary schools became "eligible" to receive Title I funds. In contrast, only 10 (of the 13 extant) schools had been eligible in 1975-76.

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*Grade 6 was eliminated because the district adopted a middle school approach, thereby removing grade 6 from grades 1-5 buildings. Grade 1 was deemphasized for the purposes of the Demonstration because the focus of the labs is on reading and math remediation, not prereading and premath development.

However, because an originally anticipated increase in Title I funds was not granted, Berkeley was unable to operationalize its intent to extend services to all elementary schools. In effect, only Tuscarora, the new school, received services for the first time in 1976-77. Although the part-time mobile lab was relocated, the school receiving the majority of its services, Berkeley Heights, had received Title I aides and an ESAA lab in 1975-76. With the exception of the part-time mobile lab relocation, the program was held constant in the other schools. (The schools originally served by the mobile lab continued to receive Title I aides.)

The district used the Demonstration to make substantial changes in the classroom-level management and content of the program (particularly the management). As Tables 2.7.4.1 and 2.7.4.2 show, these changes have important implications for the numbers of students served.

TABLE 2.7.4.1

CHANGES IN INTRA-DISTRICT ALLOCATION CRITERIA RESULTING FROM THE TITLE I DEMONSTRATION PROJECT

Berkeley County, West Virginia

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	1. # AFDC students in attendance area determined using data from state-wide survey 2. # AFDC ÷ # students in attendance area = % poor 3. mean % poor in district = 5.0% 4. all schools above district mean % poor eligible	All elementary schools eligible	From poverty to bypass
SCHOOL TARGETING	Schools were ranked in order of % poor: all eligible elementary schools were then served.	The elementary schools which had programs in 1975-1976 plus the new elementary school were served. All eligible schools served.	Order in the poverty list no longer critical.
STUDENT ELIGIBILITY	Students in Gr. 1-6, selected on the basis of teacher/principal recommendation. CTBS tests were administered subsequent to student selection and were used to verify eligibility desisions. In practice, however, few, if any changes were made on the basis of these test results.	Students in Grades 2-5 participate in the Demonstration (Gr. 1 retainees to receive Title I services, however), and are selected on the basis of CTBS reading and math subtests. Criteria at or below 40th percentile in reading and 27th percentile in math. When these deficiencies are remediated, students scoring above these cutoffs but below grade level are served.	Gr. change: from 1-6 to 2-5 Criteria change: from teacher/principal referral to CTBS testing
STUDENT TARGETING	Students served on a first-come, first-served basis	Students are served in priority order, with the greatest deficiencies served first.	Change from first-come first-served basis in priority order based on greatest need.
RESOURCE DISTRIBUTION	Varies depending on whether or not ESAA has also provided services.	As in 1975-76	No change
PROGRAMMATIC EMPHASIS	Reading and math, Grades 1-6, delivered by labs and/or classroom aides	Reading and math, Grades 2-5 (grade 1 retainees also receive services), delivered by labs and/or classroom aides	Grade change from 1-6 to 2-5 (with Grade 1 retainees included). Primary change in program management.

TABLE 2.7.4.2

CHANGES IN SCHOOL AND STUDENT ELIGIBILITY AND TARGETING RESULTING FROM CHANGES IN ALLOCATION CRITERIA

Berkeley County, West Virginia

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	10 of 13 elementary 1 of 5 secondary	14 of 14 elementary	4 elementary added 1 secondary dropped
SCHOOL TARGETING	10 of 13 elementary schools	11 of 14 elementary schools	1 new elementary added
STUDENT ELIGIBILITY	All referred students were eligible. Numbers varied from school to school. (Counts are not available.)	Due to the systematic test criteria, greater numbers of students are eligible. A total of 1699 students are eligible.	Increase in number eligible
STUDENT TARGETING	All referred, i.e., all eligible, were served. A total of 630 were served.	Greater numbers of students will be served. At a minimum, each lab teacher will serve 110 students for a total of 1210.	Nearly 100% increase

2.7.5 Changes in Intra-District Allocation Policy Resulting from the Title I Demonstration Project in Boston, Massachusetts

2.7.5.1 Allocation Policy 1975-76

Eligibility of schools for Title I services in 1975-76 was based on AFDC counts calculated by school attendance areas. AFDC data were obtained from statistics released by the Welfare Department in April 1975. School attendance areas were determined from the 1975-76 school assignment list. This list specified which students from the various geocoded sections of the city* were to attend which public schools. Residence in an area having a high concentration of families receiving AFDC support rather than actual receipt of such support by a given family was used to determine each student's AFDC status. Schools were eligible for Title I service if the percentage of students from these areas exceeded the district-wide percentage of 39.2%.

Using the procedures described above, 57 public elementary schools were deemed eligible for Title I services in 1975-76, and all 57 of these schools were served. Four elementary schools which did not qualify using these procedures but which had received Title I services the previous year (i.e., the so-called "hold-harmless" schools) were also served. Students in all nine magnet** elementary schools also received Title I services, despite the fact that only four of these schools were eligible on the basis of AFDC counts. According to the local Demonstration Project Director, Boston recieved a waiver from the state to serve magnet school children who resided in eligible attendance areas if the magnet school itself did not qualify for Title I. The total number of public elementary schools receiving Title I services in 1975-76 was, therefore, 66, or approximately 56% of the 117 public elementary schools in the district. Students in 29 non-public elementary schools were also served by Title I.

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*A geocode is a designation for an area approximately equal to seven to eight city blocks.

**A magnet school serves students from throughout the city rather than from specific sections within the city. It is one approach to school desegregation.

Fifteen middle schools qualified for Title I services using the procedures described above; 13 of these schools actually received services. According to the Associate Director of Title I, Middle School Component, the two schools which did not receive Title I did not have sufficient space to support such a program. Lastly, only one of the 11 high schools eligible for Title I was served. This school concentrated all of its resources on instruction for dropouts and potential dropouts.

According to the FY76 Title I application, resources were distributed to Title I schools on the basis of need, determined from the school's AFDC ranking, and the availability of space. Given the variation in the number of Title I teachers allocated to schools, it appears that the latter criterion weighed heavily on the distribution process.

Student eligibility for elementary school programs during 1975-76 was based primarily on achievement test results. Students with Reading (Metropolitan Achievement Test-Metro 70) and Mathematics (California Achievement Test) scores below the 49th percentile (based on national norms) on unspecified subtests were eligible for services. Where test data were not available, other factors such as the grade retention, school absences, student progress in basic tests, health problems, and hyperactivity were combined through a weighted checklist. Those students whose weighted checklist score exceeded the specified criterion were also judged to be eligible for Title I assistance. According to the Local Demonstration Project Director, students were served on a "worst first" basis using both achievement and checklist information to determine which students were in greatest need.

Title I resources for 1975-76 were concentrated in the primary and elementary grades. For the most part, the services offered to these students (grades 1-5) consisted of instruction in Reading and Mathematics and in English as a Second Language (ESL). Reading instruction was offered by Title I teachers and aides to approximately 7,000 students (projected enrollment). Mathematics instruction was offered by Title I mathematics teachers to approximately 1,000 students; ESL instruction was offered to approximately 1,100 students. In addition to these primary services, health services (n=200) and a library program (n=650 students) were also available.

In addition to Title I services offered to public elementary school students, other services offered in 1975-76 included: (a) an early childhood education program (pre-school program) for 965 students (projected enrollment); (b) reading instruction for approximately 1,400 middle school pupils (grades 6, 7, and 8); (c) a work-study program for approximately 600 high school students (grades 9-12); (d) inservice instruction for reading and mathematics teachers; and (e) reading, mathematics and ESL instruction for approximately 600, 600, and 300 non-public school students (grades 1-6), respectively.

2.7.5.2 Development of Allocation Policy from Application to Implementation

Boston's involvement in the Demonstration Study is based on the district's desire to consider the feasibility and educational equity of approaches other than poverty for Title I resource allocation. Several reasons for this desire were advanced in the district's initial proposal to NIE:

- Title I in Boston has been unable to provide services to a significant number of children with great reading deficiencies simply because they attend schools with less than the average concentration of low-income families.

- The use of poverty data, determined either from the Census or from AFDC counts, presents problems in Boston because of the high cost of living in the region. According to the district's proposal, this makes the application of nationally accepted figures indicating the line below which families are considered to be in poverty discriminatory to Boston. In addition, Boston also has a significant number of families which could be called the working poor. Again, according to the proposal, these are families which do not appear in AFDC figures or in outdated census data. While they are employed in low paying jobs, they could be included in poverty figures if such data were more current.
- Boston is undergoing court-ordered desegregation. The report of experts appointed by the Federal Court states that when poor black children are transported to new schools as part of a court order to desegregate a school system, doubt is raised as to their continued eligibility for Title I services if only those schools which meet the higher than average poverty criteria receive Title I funded services.

At the time of its initial proposal to NIE, the Boston Title I Office anticipated that nine new school districts or areas would be created in the city. The proposal, therefore, called for the selection of one school from each of these areas on the basis of the concentration of pupils with low reading scores. Other schools in the city would be selected using poverty criteria. Approximately 125 pupils in grades 1-5 in each of the nine schools, or a total of 1,125 students, would be served. Pupils served would be those which had the lowest achievement in reading, as measured by standardized reading tests and other appropriate measures of reading achievement. The major goal of the Demonstration Program would be the same as the major goal of the regular Title I program--that is, the amelioration of reading problems and the raising of low reading scores.

During the planning year the above-described procedures were refined and modified. Rather than selecting schools from specific districts or areas, all schools in the city not eligible for Title I using the poverty criteria would be rank-ordered on achievement criteria. Seven, rather than nine public schools were to be targeted along with two non-public schools. Finally, a total of 600 students, rather than the 1,125 originally proposed, were to be served. The rationale for involvement and for the proposed general approach to the Demonstration did not change during the planning year.

2.7.5.3 Allocation Policy 1976-77

Two sets of procedures were used to determine school eligibility during the 1976-77 school year. First, all schools in the district were rank-ordered according to the percentage poor (AFDC) and compared with the district-wide AFDC percentage. The actual methods used were comparable to those used in 1975-76 with the following two exceptions: (1) AFDC welfare statistics were obtained in March 1976; and (2) the district wide percentage was 39.4%. Using these procedures, 53 of the 109 public elementary schools were deemed eligible. In addition, six schools which had received Title I in 1975-76 qualified under the "hold harmless" condition, and, as before, all nine magnet schools were determined to be eligible, regardless of their AFDC counts. Therefore, 68 of the 109 elementary schools (62.4%) qualified for Title I services and are being served. A total of 30 non-public schools are also being served. Again using AFDC counts, 14 middle schools qualified for Title I services and are being served, as are the four magnet middle schools. Finally, only one of the district's high schools is receiving Title I services in 1976-77, although 13 high schools qualified for them.

When school eligibility and school targeting using poverty criteria had been completed, all remaining elementary schools in the district were rank ordered three times using three different achievement criteria: (1) the number of children reading below grade level (Metropolitan Achievement Test, May 1976 administration); (2) the percentage of children reading below grade level; and (3) a weighted combination of the two, called the Reading Deficiency Index. Seven of these schools were chosen to receive Title I services by selecting the top ranked schools in each of the three categories (three schools were targeted from the first category; two schools were targeted from each of the other two categories). Two non-public schools were also selected using these proceudres.

In all schools targeted, using either the poverty criterion or the achievement criterion, student eligibility was again determined by student achievement scores and teacher judgment. However, the achievement cutoff was lowered to the 41st percentile (from the 49th percentile) and some modification was made in the teacher checklist. Again in 1976-77, student selection was based on greatest need ("worst first") determined from test scores and checklist results.

The procedures for distributing resources to schools selected on the basis of poverty were similar to those used in 1975-76; again, space and other non-quantifiable factors played a key role in determining the number of teachers and aides a school would receive. The procedures for distributing resources to the seven schools selected using achievement criteria have not been precisely described by the LEA. Five of these schools will each receive a single Title I reading teacher and four will receive two reading teachers. (These counts include two non-public schools.)

Again in 1976-77, Title I services are concentrated in the elementary schools. The services offered to public elementary school students in grades 1-5 are reading (5,000 students projected to be served), mathematics (2,000 students projected to be served), and ESL instruction (600 students projected to be served). Health, psychological and library services are also being offered for 8,586 students. In addition to Title I services offered to elementary school students, other services provided in 1976-77 include: a) an early childhood education program for 1,452 students (projected enrollment); b) reading instruction for approximately 425 middle school pupils; c) a work study program for approximately 625 students; d) an ESL program for 200 students in grades 7-12; e) health, library and psychological services for 2,045 students in grades 7-12; f) reading, mathematics and ESL services for 1,300, 500, and 150 students, respectively, in grades 1-6 in non-public schools; g) reading, mathematics and ESL services for 595, 135, and 50 students, respectively, in grades 7-8 in non-public schools; and h) health, library, and psychological services for non-public elementary (n = 2,317) and secondary (n = 113) students.

2.7.5.4 Summary and Conclusion

Comparing the 1975-76 program with that offered in 1976-77, a number of changes can be seen (see Tables 2.7.5.1 and 2.7.5.2). These include changes in the kinds of services offered, the concentration of these services, and the ranking and hence the eligibility of schools. However, only the following changes appear to be attributable to the Demonstration:

(1) The use of both poverty and achievement criteria for school eligibility and selection, poverty being used throughout the district and achievement being used for those schools not qualifying under the poverty criterion.

(2) The resulting delivery of Title I services to seven public elementary schools and 600 students who would not have been served if achievement criteria had not been employed in determining school eligibility.

Boston, therefore, presents a demonstration of the possible effects of the use of both achievement and poverty criteria for determining elementary school eligibility.

TABLE 2.7.5.1

CHANGES IN INTRA-DISTRICT ALLOCATION CRITERIA RESULTING FROM THE TITLE I DEMONSTRATION PROJECT

Boston, Massachusetts

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	1) AFDC count by school attendance area 2) School percentage (# from AFDC ÷ # school age in attendance area) 3) District average 39.2% 4) Schools above average eligible	1) Poverty criterion - same as (1)-(4) for 1975-1976 - District average = 39.4% 2) Achievement criterion - ranking by number, percent and weighted combination of two for all elementary schools not eligible using poverty criterion - schools ranked on 1976 MAT reading scores on each criterion	1) Use of achievement criterion for schools not eligible under poverty measure
SCHOOL TARGETING	1) All eligible elementary - public and non-public 2) Public elementary schools served previous year and not eligible by above criteria 3) All magnet elementary schools, regardless of AFDC counts 4) Some eligible middle schools 5) One high school	1) All eligible elementary and middle schools 2) Nine elementary by achievement --7 public - 3 by number eligible, 2 each by % eligible and combination 3) Public elementary schools served previous year and not eligible by above criteria 4) All magnet elementary schools, regardless of AFDC counts 5) One high school	1) Inclusion of 7 public and 2 non-public schools using achievement criterion
STUDENT ELIGIBILITY	1) Achievement test - scores below 49th percentile for reading (MAT) and math (CAT) - no subtests specified 2) Weighted scores from student checklist for students without test results and for students not eligible solely from tests	1) Achievement test scores below 41st percentile 2) Checklist scores	None
STUDENT TARGETING	1) Greatest need based on achievement test scores and/or checklist results 2) Availability of space for assignment of teachers and/or aides	1) Same as 1975-1976 2) Same as 1975-1976	None
RESOURCE DISTRIBUTION	1) Based on rank order of schools and students eligible 2) Space limitations in schools to be served	1) Same as 1975-1976 2) Same as 1975-1976	None Carry over monies ($262,000) allocated to Demonstration schools
PROGRAMMATIC EMPHASIS	1) Reading grades (1-5) and math grades (1-5) with individual instruction 2) Early childhood (pre-K and K) 3) Reading in middle school 4) Total high school work study program 5) Support (health, etc.) programs	1) Essentially same as 1975-1976	None due to Demonstration

TABLE 2.7.5.2

CHANGES IN SCHOOL AND STUDENT ELIGIBILITY AND TARGETING RESULTING FROM CHANGES IN ALLOCATION CRITERIA

Boston, Massachusetts

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	66 Public elementary 15 Public middle 11 Public high 29 non-Public	68 Public elementary 19 Public middle 5 Public high 30 non-Public	7 public elementary & 2 non-public elementary eligible using achievement - not eligible using poverty criterion
SCHOOL TARGETING	66 Public elementary 13 Public middle 1 Public high 29 non-Public	75 Public elementary 19 Public middle 1 Public high 30 Non-public	7 public elementary and 2 non-public elementary targeted by achievement--not eligible using poverty criterion
STUDENT ELIGIBILITY	(not given)	(not given)	----
STUDENT TARGETING	9,165 Public elementary (gr. 1-5) 965 Public elementary (pre-K & K) 1,540 Public middle (gr. 6-8) 600 Public high 2,940 non-Public 15,210 TOTAL	7,926 Public elementary (gr. 1-5) 1,452 Public elementary (pre-K & K) 1,980 Public middle (gr. 6-8) 625 Public high 2,530 non-Public 14,513 TOTAL	600 students served who, due to their school location, would not have been if poverty criterion were only criterion employed.

2.7.6 Changes in Intra-District Allocation Policy Resulting from the Title I Demonstration Project in Charlotte, North Carolina

2.7.6.1 Allocation Policy 1975-76

The procedures for determining school eligibility in Charlotte for the 1975-76 school year were quite complex. To begin with, two poverty measures were used: 1) 1970 census poverty data, converted to school counts and updated to account for shifts in attendance areas resulting primarily from school desegregation; and 2) a locally initiated count, by school, of children from families receiving AFDC support. These poverty measures were weighted as follows:

$$\text{Weighted School AFDC Count} = \text{School AFDC Count} \times \frac{\text{Updated District Census Poverty Count}}{\text{District AFDC Count}}$$

Then, the number and percentage of poor students from each school were estimated as follows:

$$(1)\ \text{Number Poor} = (7 \times \text{number poor by census}) + (3 \times \text{number poor from weighted AFDC})/10$$

$$(2)\ \text{Percentage Poor} = \frac{\text{Number poor}}{\text{Total school enrollment}} \times 100$$

All schools in the district were ranked on the basis of both number and percentage poor. School eligibility was based on the percentage ranking. All elementary schools above the district-wide mean of 25.4% were eligible for Title I services. In all, 49 of the 73 elementary schools were eligible, and all 49 eligible schools were served. Each of the 49 schools received reading services. Mathematics services, which were available only to students in grades 4-6, were offered in 38 schools. Although a number of junior and senior high schools were eligible for services based on their ranking above the district-wide average, none of these schools were served by Title I in 1975-76.

The Title I services offered in 1975-76 consisted primarily of reading instruction for selected students in grades 2-6 and mathematics instruction for selected students in grades 4-6. A total of 4,437 and 2,003 students, respectively, actually received such reading and mathematics services. Other services included health/medical and home-school coordination for students in grades 2-6 (1,664 projected to be served), mathematics and reading instruction for boys in grades 2-12 in three homes for the neglected and delinquent (72 projected to be served), and language arts instruction in four non-public elementary schools (201 students projected to be served).

Student eligibility for Title I reading or mathematics instruction within targeted schools was based on an achievement criterion. Specifically, the Comprehensive Test of Basic Skills (CTBS) was administered in September 1975 to students in Title I schools who were judged by their teachers to be achieving in the lower 50 percent of their class. Since the prevailing philosophy of the district Title I program was that special emphasis should be placed on serving students most in need in the early grades, the cutoff levels for reading eligibility were not uniform across grades. In fact, they varied from three months below grade level for second graders to two years below grade level for sixth graders, based on national norms. (The total reading score of the CTBS was used in all cases.) The cutoff level for mathematics, on the other hand, was one year below grade level for students in grades 4-6 based on national norms. (The mathematics computation subtest score of the CTBS was used.)

Resource distribution to eligible schools, which in Charlotte meant the assignment to schools of reading and mathematics laboratories along with their accompanying teachers and aides, was based on three criteria: 1) the number of eligible students in eligible schools; 2) the severity of the need of these students; and 3) the availability of space in these schools. Despite these criteria, or perhaps because of their multiplicity, the district had a great deal of flexibility in resource distribution. Since the number of students able to be served at each school was determined by the number and types of labs placed there, this flexibility profoundly influenced who actually benefited from the Title I programs. In addition, although the district attempted to serve the neediest students first, particularly those in the earlier grades, no precise rules were developed to govern the distribution of services across grade level within schools. Thus, the selection of students actually served was influenced by two factors: 1) the resources distributed to the schools; and 2) the judgment of homeroom teachers and Title I specialists.

2.7.6.2 Development of Allocation Policy from Application to Implementation

In response to the RFP issued by the National Institute of Education, Charlotte offered the following rationale for participation in the Demonstration Study:

1. Federal programs are not warmly received in the district. This is particularly true of Title I, since it has been viewed as serving particular groups of people. In 1975-76, for example, over 75% of the students projected to be served by Title I were black. School administrators hypothesized that if the poverty criterion were removed Title I services might be more evenly spread across all ethnic groups.
2. Educational deprivation exists in schools without high concentrations of poverty (i.e., schools which would not be eligible for services if a poverty criterion were used). Removal of the poverty criterion would make students in these schools eligible for services which they need.
3. The court-ordered, pupil-assignment plan established for the district pairs schools of wide variance in socioeconomic status; hence, a school in an affluent neighborhood is paired with a school in a low-income neighborhood. Because the number of pupils from middle to upper income families greatly exceeds the number of pupils from low-income families, the percentage of low-income families is not sufficient to

> warrant Title I support for all schools. As a result, needy students in ineligible schools are not served. Elimination of the poverty criterion for school eligibility would make academically needy students in such schools eligible for Title I services.

Charlotte's Planning Proposal to NIE called for using achievement rather than poverty measures for determining school eligibility. Under the plan, all schools defined to be below average in student achievement would be eligible to receive Title I funds. Schools with a mean Stanford Achievement Test (SAT) score for third graders below the national norm (3.6) were considered below average.

During the planning year (1975-76) the district experimented with the possible effects of using different achievement-level cutoffs to determine both school and student eligibility. On the basis of the reading comprehension and math computation subtests of the SAT, which were given in grades 3 and 6, percentages of students below varying percentile cutoff points were computed for both subject areas. A school could thus become eligible for services in either reading or math, or both.* After matching school rankings with available resources, the district decided upon a final cutoff level for each subject, as described below.

2.7.6.3 Allocation Policy 1976-77

School eligibility for 1976-77 was determined by using an achievement criterion rather than a poverty criterion. Stanford Achievement Tests (SAT) were administered throughout the district in grades 3, 6, and 9 in the spring of 1976. A school was judged to be eligible for Title I reading if 35% of its third and sixth grade students received scores at or below the 30th percentile (using national norms) on the reading comprehension subtest. A school was judged to be eligible for mathematics if 35% of its third or sixth grade students received scores at or below the 30th percentile on the mathematics computation subtest.

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* As a result of a local decision, schools which did not serve grades 4-6 were automatically ineligible for math.

As in 1975-76, all schools eligible for Title I services were served. However, in 1976-77 school eligibility for Title I reading and mathematics was determined separately. Fifty-seven elementary schools were judged to be eligible for either reading or mathematics services: 51 for reading services, 45 for mathematics, and 39 for both reading and mathematics. Forty of these 57 schools eligible in 1976-77 had received Title I services in 1975-76. Nine of the 49 schools served in 1975-76 did not qualify for services in 1976-77. A total of 17 schools not eligible for services in 1975-76 became eligible in 1976-77.

As in 1975-76, the services offered in the elementary schools consist primarily of reading for grades 2-6, and mathematics for grades 4-6. A total of 4,320 students and 2,507 students, respectively, have been projected to receive such reading or mathematics services. This represents less than a 5% increase in the number of students served during 1975-76, and was made possible in part by the discontinuation of the health and home-school programs which in 1975 spent a total of $46,812. These small increases may have been greater if the Title I allocation had increased or if state requirements for concentration of funds at the student level were relaxed. Other Title I services offered in 1976-77 include reading and mathematics instruction for a total of 145 students in four non-public elementary schools and for a total of 71 boys in three homes for the neglected and delinquent.

Although school eligibility was based on the results of the SAT administered in the spring of 1976, student eligibility was based on the results of the Comprehensive Test of Basic Skills (CTBS), administered in the spring of 1976 for the existing Title I schools and in the fall of 1976 for new Title I schools. As in 1975-76, teachers were given some discretion as to the number and types of students in their classroom who would be tested. Of those tested, all students obtaining scores in reading comprehension or mathematics computation at or below the 30th percentile were to be considered eligible for services.

As noted earlier, the number of students served in each eligible school in 1975-76 was dependent upon the number of reading and mathematics laboratories allocated to the school. Given the flexibility in the procedures used to allocate these laboratories, the number of students served in a particular school during 1975-76 was more influenced by the resources received than by the number of students eligible for services. For 1976-77, resource distribution to schools appears to be almost exclusively dependent upon the number of eligible (i.e., low-achieving) students within a school. That is, the number of eligible students in a school determines the amount of resources received by the school and, therefore, the number of students who can be served. This represents a significant departure from previous practice.

2.7.6.4 Summary and Conclusions

The changes in the allocation criteria resulting from the Demonstration and the effect of these changes on the number of schools and students eligible and served are displayed in Tables 2.7.6.1 and 2.7.6.2, respectively. The major changes resulting from the shift in criteria for determining school eligibility from poverty to achievement are as follows:

1. School eligibility: Of the 49 Title I schools served in 1975-76, nine no longer qualify for Title I services under achievement-based eligibility. Seventeen new schools have become eligible for either mathematics or reading services, or both. Thus, a total of 57 schools will receive Title I services in 1976-77--40 of the original 49 poverty schools and 17 new schools. This represents a deconcentration of services in 1976-77.

2. Students served: Although a large increase in the number of students eligible for Title I services in 1976-77 can be seen in Table 2.7.6.2, the actual number of students served increases by less than 5% (6,713* in 1975-76 versus 7,043 in 1976-77). That the number of students served did not increase more is due to the size of the Title I budget, which was not influenced by participation in the Demonstration, and state concentration requirements.

In general, then, Charlotte shows the effects of a change in school eligibility unconfounded by a concomitant significant change in per pupil expenditure.

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*Does not include the 1,664 students receiving health/medical and home-school services in 1975-76. These students are counted under elementary reading and mathematics programs.

TABLE 2.7.6.1

CHANGES IN INTRA-DISTRICT ALLOCATION CRITERIA RESULTING FROM THE TITLE I DEMONSTRATION PROJECT

Charlotte, North Carolina

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	1) Used poverty criterion 2) Determined by attendance area using updated 1970 census data and AFDC counts 3) Used school percentage - determined by a weighted average of census (weighted 7) and AFDC (weighted 3) 4) District percentage 25.4 5) Schools above district percentage were eligible 6) Home for neglected and delinquent serving students from district also eligible	1) Used achievement criterion 2) School eligible for reading if 35% of its 3rd or 6th graders received reading comprehension scores at or below the 30th percentile (SAT) 3) School eligible for math if 30% of 3rd or 6th graders received math computation score below 30th percentile (SAT) 4) Homes for neglected and delinquent serving students from district also eligible	1) Change from poverty to achievement criterion 2) School eligibility for reading and math determined separately
SCHOOL TARGETING	1) All eligible elementary schools served 2) No junior or senior high schools served	1) All eligible schools served (only elementary schools eligible by definition)	No change
STUDENT ELIGIBILITY	1) Achievement criterion used 2) Reading - total reading score on CTBS with cut-offs varying from 3 months below grade level (grade 2) to 2 years below grade level (grade 6) 3) Mathematics - math computation on MAT with cut-off 2 years below grade (grades 4-6)	1) Achievement criterion used 2) Reading - comprehension scores (CTBS) at or below 30th percentile 3) Math - computation scores (CTBS) at or below 30th percentile	1) Shift from grade equivalent to percentile criterion
STUDENT TARGETING	1) Students in greatest need 2) Teacher judgement 3) Availability of space which determines placement of labs and their accompanying teachers and aides	1) Students in greatest need 2) Teacher judgement 3) Availability of space	1) No significant change, except as specified in resource distribution changes
RESOURCE DISTRIBUTION	1) Concentration of eligible students 2) Severity of need of eligible students 3) Availability of space in eligible schools	1) Concentration of eligible students 2) Availability of space	1) Greater precision in distribution and more emphasis on number of eligible students
PROGRAMMATIC EMPHASIS	1) Reading instruction in laboratory setting in grades 2-6 2) Mathematics instruction in laboratory setting in grades 4-6 3) Health/medical and home-school coordinator in grades 2-6 4) Reading and mathematics instruction in homes for neglected and delinquent 5) Language arts instruction in non-public schools	1) Same as 1975-1976 except that health/medical and home-school coordinator programs not offered	1) Health/medical and home-school coordinator programs not offered in 76-77

TABLE 2.7.6.2

CHANGES IN SCHOOL AND STUDENT ELIGIBILITY AND TARGETING RESULTING FROM CHANGES IN ALLOCATION CRITERIA

Charlotte, North Carolina

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	49 Public elementary 3 Homes for neglected and delinquent 4 non-public elementary (junior and senior highs not considered given programmatic emphasis)	57 Total elementary 51 Public elementary for reading 45 Public elementary for math 39 Public elementary for reading & math 3 Homes for neglected and delinquent 4 Non-public elementary	Deconcentration of services across schools: nine schools eligible during 1975-76 not eligible during 1976-77; 17 "new" schools eligible in 1976-77
SCHOOL TARGETING	38 Public elementary with reading & math 11 Public elementary with reading only 4 Non-public elementary 3 Homes for neglected and delinquent (all eligible)	All eligible as defined above	(see above)
STUDENT ELIGIBILITY	5469 Public elementary for reading (Grade 2-6) 3522 Public elementary for math (Grades 4-6) 201 Non-public elementary 72 Students in homes for neglected and delinquent	10320 Public elementary for reading 6179 Public elementary for math 145 Non-public elementary 71 Students in homes for the neglected and delinquent	Increased number of students eligible
STUDENT TARGETING	4437 Public elementary for reading (Grades 2-6) 2003 Public elementary for math (Grades 4-6) 1664 Health/medical and home-school coordination (grades 2-6) 201 Non-public elementary 72 Students in homes for neglected and delinquent	4320 Public elementary for reading 2507 Public elementary for math 145 Non-public elementary 71 Students in homes for neglected and delinquent	An increase in total number served of 330 students, or approximately 5%.

2.7.7 Changes in Intra-District Allocation Policy Resulting from the Title I Demonstration Project in Harrison County, West Virginia

2.7.7.1 Allocation Policy 1975-76

School eligibility was calculated by means of a formula that included both Aid to Families with Dependent Children (AFDC) and free lunch data. The annual, state-mandated AFDC survey was conducted in the winter of 1975, and a listing of AFDC children in Harrison County developed from the survey was returned to the Title I office in the spring. Following this, Title I personnel met with principals in each school to arrive at a count of the AFDC children for the schools. Free lunch participation at each school was assessed and certified by the lunch supervisor. The formula used, given these data, was as follows:

Number low income children = .6 (number AFDC) +
.4 (number free lunch)

The ratio of number low income children to projected total children in the attendance area constituted the percentage of low income children for that area. This percentage, and the number of low income children on which it was based, were calculated for all school attendance areas in the district. The 41 schools in the district were then ranked, first according to number low income, then by percentage low income. In other words, the 12 schools where the number of low income children in the attendance areas exceeded the district average of 43.7 were first ranked in priority order by the number of low income. (Of these 12 schools, five included grades K-6; four, grades K-9; one, grades 7-9; and two, grades 7-12). The remaining 29 schools in the district were ranked according to the percentage of low income children. (Of these 29, seventeen included grades K-6; four, grades K-8 or K-9; three, grades 7-8 or 7-9; and five, grades 7-12, 9-12, or 10-12.) Of the twelve schools with the highest number of low income children, all nine elementary schools were served. Of the remaining 29 schools in the district, all of the 16 elementary schools whose poverty percentage exceeded the district average of 10.75% were served. In sum, all 25 eligible elementary schools were served. In addition, service was provided to one non-public school.

Title I resources were distributed across schools on the basis of the projected number of participants per school. The pupil/teacher ratio used for distribution was 15 to 1 in grade 1, 60 to 1 in grades 2-6.

The Harrison County Title I program concentrated on reading only, providing an individualized tutorial program for first graders, and a small-group/individualized remedial reading program for grades 2-6. First grade participants were selected by means of the Metropolitan Readiness Test (MRT), which was administered to all prospective (fall 1975) first graders at the close of their kindergarten year in May of 1975. Children scoring in the D and E ranges on this test were eligible for the tutorial program. Children in grades 2-6 were first referred to Title I by classroom teachers and/or principals. These referrals were then given the Gates-MacGinitie Reading Test by the Title I teacher to determine eligibility, or, where they were continuing in Title I, their extant Gates-MacGinitie scores were examined. (In some cases, the Wide Range Achievement Test was used as a quick screening device to determine whether or not to proceed with the Gates-MacGinitie.) Pupils who showed a deficiency of six months or more below grade level, according to publisher's norms, were placed on an eligible list and ranked according to severity of deficiency. Children were then served in order of priority (beginning with the most deficient) on a space-available basis.

2.7.7.2 Development of Allocation Policy from Application to Implementation

The Harrison County proposal to participate in the NIE Demonstration Study sought to continue the existing reading program, which was located in 25 Title I public elementary schools, and to expand to the five non-Title I schools. The district proposed reducing per pupil expenditures by $50-$75 to accommodate the increase in number of participants this expansion would bring. The district further proposed to work with community leaders and PAC members to refine methods of qualifying participants. Finally, the district proposed to provide service to academically deficient children in grade 7 through a "follow-through" activity in 14 junior high schools that receive students from Title I feeders and to establish a new, remedial reading program in another serving non-Title I feeders.

Harrison County's basic rationale for participation in the Demonstration was that school-based poverty criteria deny needed services to low achieving children who attend schools that do not serve a large low-income population.

During the planning year, Harrison County comprehensively and systematically assessed their approach to the allocation and distribution of Title I funds. This assessment was organized around three objectives which essentially reflected new allocation policy options. These were:

- serving more students (without decreasing level of service) by reducing the per pupil expenditure;
- developing more equitable methods of qualifying schools or students; and
- expanding services into the seventh grade.

Extensive data on pupils were gathered using the Gates-MacGinitie Reading Test (specially administered for planning purposes to potentially eligible non-Title I students); two IQ measures, the Otis-Lennon Mental Ability Test, and the Culture Fair Test (administered to a sample of Title I and non-Title I students in response to planners' concerns that achievement tests are not entirely adequate); the Stanford Achievement Test (administered to grade 7 students who had been in past Title I programs); and the Wide Range Achievement Test (administered to all students in grades 2-6). Analyses of these data identified 882 additional pupils in need of Title I services, 501 of whom were in grade 7.

Input from parents, the community, students, and school administrators was collected by means of a series of questionnaires. Financial/cost analysis data were collected from past Title I records and evaluations. Analyses of this extensive and comprehensive information led the district to adopt all three allocation option objectives.

2.7.7.3 Allocation Policy 1976-77

In 1976-77 Harrison County expanded eligibility to include all 30 public elementary schools in the district, plus one junior high and two non-public schools. Twenty-two public elementary schools and one non-public school qualified on the basis of their updated 1976-77 poverty status; three public schools qualified on the basis of their 1975-76 status as target schools; and five public elementary, one junior high, and one parochial school qualified on the basis of the academic need of the students. All eligible schools were targeted.

Title I resources are distributed across schools on the basis of the projected number of participants per school. The pupil/teacher ratio used for distribution is 15 to 1 in grade 1, and 80 to 1 in grades 2-7.

Students in grades 1-7 who attend the target schools and who meet the eligibility criteria discussed below are served. The reading focus of the program is continued and implemented as in 1975-76.

Eligibility in grade 1 is determined by the MRT, administered at the end of the preceding kindergarten year (May, 1976). Eligibility in grades 2-7 is determined by the Gates-MacGinitie Reading Test, also administered in May 1976.*

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*Where students do not have a Gates-MacGinitie score from the preceding year, they are tested by the Title I teacher on the recommendation of the regular classroom teacher and/or principal. (As for 1975-76, in some cases the Wide Range Achievement Test is used as a quick screening device to decide whether or not to proceed with the Gates-MacGinitie.)

Grade When Tested	Grade When Served	Test	Criteria
K	1	MRT	D or E level
1	2	Gates-MacGinitie	3 months or more below grade level
2	3	"	4 " " " " " "
3	4	"	5 " " " " " "
4	5	"	6 " " " " " "
5	6	"	7 " " " " " "
6	7	"	7 " " " " " "

All eligible grade 1 children are served. Children in grades 2-7 are ranked on the basis of their Gates-MacGinitie scores. Those with the lowest scores are given priority for selection.

2.7.7.4 Summary and Conclusions

Tables 2.7.7.1 and 2.7.7.2 summarize the changes in Harrison County's allocation and distribution policies brought about by the Demonstration. As these tables show, schools were bypassed in the determination of student eligibility. Services were expanded in 1976-77 to include five elementary schools, one junior high school, and an additional non-public school. These changes generated a sizeable increase in the number of children served. In 1975-76, Harrison County served 1,129 students. In 1976-77, the district projects serving 2,128 students. To accomplish this, the per pupil expenditure will be dropped from $376 to $227. In addition, the entire Title I allocation will be utilized. (Harrison County has traditionally held back a certain portion of its allocation to provide cash flow backlog and summer school funds.)

TABLE 2.7.7.1

CHANGES IN INTRA-DISTRICT ALLOCATION CRITERIA RESULTING FROM THE TITLE I DEMONSTRATION PROJECT

Harrison County, West Virginia

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	1. #AFDC students in attendance area determined using state survey data 2. # free lunch students in school determined using school records 3. 60% AFDC + 40% free lunch = number poor for school 4. # poor for school ÷ # students in attendance area = % poor for school 5. mean # poor in district = 43.7 6. mean % poor in district = 10.75 7. schools with largest # and % poor eligible	Direct LEA to student allocation at the elementary level, i.e., all elementary schools eligible; academic achievement at the secondary level	From poverty to a combination of poverty and achievement
SCHOOL TARGETING	Schools are ranked, the first 12 by the largest # low income, the remainder by % low income. In other words, the district sought to give first priority to schools with large clusters of poor. Elementary schools were then served in priority order until funds were expended. All eligible elementary schools were served.	All eligible schools served	No change
STUDENT ELIGIBILITY	Based on a standardized test administered upon referral by classroom teacher and/or principal. (In cases where the child is continuing in Title I, scores are available from the previous year.) Criteria are: Grade 1, MRT, D & E ranges; grades 2-6, Gates-MacGinitie, 6 mos. or more below grade level. (Both public and parochial school students are included.)	Selection procedures are identical to those used in 1975-76. Criteria are: grade 1, MRT, D&E ranges; grades 2-7, Gates-MacGinitie scores varying by grade as follows: GRADE CRITERIA 2 3 mo. below grade level 3 4 mo. " " " 4 5 mo. " " " 5 6 mo. " " " 6 7 mo. " " "	Test score criteria for grades 2,3,4, and 6 are changed.
STUDENT TARGETING	Served in priority order based on greatest deficiency on MRT and Gates-MacGinitie.	As in 1975-76	No change
RESOURCE DISTRIBUTION	Based on number of students projected per school on a ratio of 60 to 1 in grades 2-6; 15 to 1 in grade 1.	Based on number of students projected per school on a ratio of 80 to 1 in grades 2-7; 15 to 1 in grade 1.	Grade 7 is included. Student-teacher ratio in grades 2-7 increases increases by 20 children.
PROGRAMMATIC EMPHASIS	Reading only, in grades 1-6, delivered by tutorial aides (Gr. 1) and specialists (Gr. 2-6) providing individual, small group instruction.	Reading only, in Grades 1-7, delivered as in 75-76.	Added Grade 7

TABLE 2.7.7.2

CHANGES IN SCHOOL AND STUDENT ELIGIBILITY AND TARGETING RESULTING FROM CHANGES IN ALLOCATION CRITERIA

Harrison County, West Virginia

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	25 of 30 elementary 1 of 4 junior highs 1 non-public school	30 of 30 elementary 1 of 4 junior highs 2 non-public schools	5 elementary added 1 junior high added 1 non-public added
SCHOOL TARGETING	25 of 30 elementary 1 non-public school	30 of 30 elementary 1 of 4 junior highs 2 non-public schools	5 elementary added 1 junior high added 1 non-public added
STUDENT ELIGIBILITY	Eligibility was determined by testing (or examining extant scores) after referral. In practice, all eligible children were served.	As the number of schools increases, the number eligible increases. Anticipated eligibility for 1976-77 is 2507 in Grades 2-7. Grade 1 data is not available (by grade data are not available)	Increase in the number eligible.
STUDENT TARGETING	All eligible students were served for a total of 1129 (figures not available by grade level)	It is anticipated that 2128 students will be served (figures not available by grade level)	Increase in number served

2.7.8 Changes in Intra-District Allocation Policy Resulting from the Title I Demonstration Project in Houston, Texas

2.7.8.1 Allocation Policy 1975-76

In 1975-76 school eligibility in Houston was determined by a survey of school principals which elicited the number and percentage of poor students attending each school. Principals received forms on which they were instructed to include children in the eligible count whose families were poor according to the Orshansky Index or who received AFDC. Student records usually give parental occupation and not income. Thus, principals were provided occupational listings which showed average salary for that occupation. They were also given poverty line income for varying family sizes. They were then instructed to calculate whether a family fell above or below the poverty line--assuming income was average for that occupation. Students from families below the poverty line, as determined by this calculation, and those from AFDC families were weighed equally.

Using this method for determining eligibility, 78% of the elementary schools in Houston were eligible because the percentage poor in those schools was above the district average of 28.7%.

Because of the concentration goals set by the Houston Independent School District (HISD), with encouragement from the State of Texas, only 32% of all elementary schools (or 41% of those eligible) were served. Schools were targeted starting from those with the highest percentage poor. The distribution of resources among those targeted schools was based partly on a guideline concentrating resources to the 20 schools with the highest percentage poor, but more importantly on a set of practical criteria--principal choice and school staff capability, size of school, location of school, conditions of physical facilities in schools, etc. The result was that the distribution of resources varied widely across schools in 1975-76.

Students scoring below the 35th percentile of the national distribution on the Metropolitan Readiness Test (grade 1), California Achievement Test (grade 2), or Iowa Test of Basic Skills (grades 3-6) were designated eligible. Student selection was based on these test scores and on principal and teacher judgment, which entered into the student selection process in an unknown number of cases. Thus, the selection procedure was to start from the bottom up, based on achievement scores, but to define "neediest" also by teacher judgment. This was particularly true in cases where students had not taken the achievement tests for one reason or another.

The programs funded by Title I in Houston cover a broad spectrum. Indeed, they are more varied than in any other LEA in the Demonstration. The emphasis, however, is on reading and mathematics. More than half the Title I funds are used for reading and mathematics laboratory instruction.

2.7.8.2 Development of Allocation Policy from Application to Implementation

HISD responded to NIE's request for the explicit purpose of developing a more rational distribution of Title I resources. This was necessary partly because of the desegregation which has been taking place in Houston since 1972. Houston planned to base allocation solely on achievement test results which would determine eligibility and targeting of both schools and students. HISD suggested that the use of achievement test scores for allocation was both more equitable and more rational than targeting by poverty.

During the course of the planning year, the staff of the NIE project in HISD invested a great deal of time meeting with area superintendents, principals, teachers, and parents to explain the plan and seek suggestions. Perhaps the most dramatic event during the year was the release to the public of the average achievement scores for individual schools for the first time in the history of HISD. This event reverberated throughout HISD.

A second important event was the realization by district administrators that using only achievement scores for the allocation of Title I resources would result in a dramatic change in the schools to be served, and that funds would not be available to expand to as many schools as had been discussed. At one point, discussions were conducted to plan expansion of Title I services from 54 elementary schools to 87 schools. However, funds were available for expansion to only 63 elementary schools. With this limited expansion, 11 of the 54 Title I schools served in 1975-76 would no longer qualify for services on the basis of their achievement ranking. Since district administrators felt that eliminating services in so many schools would be disruptive, a "hold-harmless" provision was adopted; i.e., no school which previously received Title I services would lose such services.

2.7.8.3 Allocation Policy 1976-77

A total of 43 schools qualify for Title I in 1976-77 when either poverty or achievement criteria are used. Eleven schools receive services under the "hold-harmless" provision because they qualify only under the poverty criterion. Nine schools receive Title I services for the first time because they qualify only under the achievement criterion. Twenty-three schools which qualified under the poverty criterion in 1975-76 continue to receive services under the achievement criterion in 1976-77.

The most dramatic change adopted for 1976-77 is in the internal allocation of Title I resources--the proportional distribution of Title I resources among targeted schools. The system for allocation was altered to make it more rational, more visible, and hopefully more equitable. The newly adopted procedure is to allocate school dollars on the basis of the number of students scoring below the 18th percentile, multiplied by a constant dollar figure. (In April, it equalled $180.00 but was subsequently increased to approximately $230.) Then, principals, together with a committee of teachers and parents, consult a catalogue containing prices for Title I services on which they can spend this allocation. They select specific services totalling this amount from the catalogue. Because the selection process is public information, HISD intends there to be greater accountability of principals and teachers to parents, citizens, and the administration.

Student eligibility and targeting are based on the same tests as in 1975-76. However, the eligibility cutoff of scores below the 18th percentile on the national distribution is more stringent than the 35th percentile cutoff used in 1975-76. Targeting again proceeds from the bottom up. Teacher judgment is limited to the selection of no more than five students per classroom.

The most notable change in instructional programs and curricula initiated in the Demonstration is the provision of teacher training. HISD administrators believe that the most fruitful path to greater effectiveness is in assuring that teachers are capable of using the curricula that have been developed.

2.7.8.4 Summary and Conclusions

Tables 2.7.8.1 and 2.7.8.2 summarize the allocation policy changes made by HISD at each stage of the allocation process. The most important change is perhaps the systematic allocation of resources across schools based on the number of low-achieving students in each school. This change may outweigh the shift in school eligibility criteria in its impact on program administration throughout the district.

TABLE 2.7.8.1

CHANGES IN INTRA-DISTRICT ALLOCATION CRITERIA RESULTING FROM THE TITLE I DEMONSTRATION PROJECT

Houston, Texas

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	1) Used poverty criteria 2) Determined by principal survey which counted # poor children in attendance at school 3) Students judged poor according to Orshansky Index or recipient of AFDC 4) District percentage 28.7 5) Schools above district percentage were eligible 6) Two homes for neglected and dependent eligible	1) Determined # of schools to be considered eligible by grade span, based on concentration decisions 2) Held harmless all schools served last year on basis of poverty 3) For remaining schools, ranked on basis of achievement and schools eligible on priority basis	Change from use of only poverty criteria to use of both achievement and poverty criteria
SCHOOL TARGETING	1) 59% of eligible schools served 2) Schools targeted starting from those with highest percent poor	1) All eligible schools served	Predetermined greatest possible number that could be served and all eligible served
STUDENT ELIGIBILITY	1) Achievement criterion used 2) Students scoring below 35th percentile on MRT (gr. 1), CAT (gr. 2), and ITBS (gr. 3-6) designated eligible 3) Principal and teacher judgement used	1) Achievement criterion used 2) Students scoring below 18th percentile on MRT (gr. 1), CAT (gr. 2), and ITBS (gr. 3-6) 3) Limited teacher judgement used	Lowered percentile cutoff from 35 to 18; teacher judgement slightly less of determining factor
STUDENT TARGETING	1) Students with lowest achievement scores served first 2) Students defined "neediest" by staff judgement served	1) Students with lowest achievement scores served first 2) Number of students served based on teacher judgement limited to 5 students per class	Essentially no change
RESOURCE DISTRIBUTION	1) Based on criteria such as principal choice & capability, size of school, school conditions & facilities	1) School dollar allocation determined on basis of number of students scoring below 18th percentile multiplied by constant dollar figure 2) Principals, teachers & some parents select services which they desire	Proportional distribution of Title I resources among schools; greater accountability of principals & teachers to parents & the administration
PROGRAMMATIC EMPHASIS	1) Early childhood education serving gr. pre-K to 2 2) Reading, language arts and math instruction in gr. 1-10 3) Academic & emotional reinforcement to student residing in 2 homes for neglected & dependent 4) Cultural development, health, counseling & clothing services to selected Title I students 5) Non-public school corrective reading instruction	1) Same components as 1975-76 except that learning thru theatrics not offered 2) 3 homes for neglected and dependent served 3) Secondary schools served by SCE funds and not Title I	Only elementary schools served

TABLE 2.7.8.2

CHANGES IN SCHOOL AND STUDENT ELIGIBILITY AND TARGETING RESULTING FROM CHANGES IN ALLOCATION CRITERIA

Houston, Texas

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	132 Elementary 57 Secondary 14 Non-public (pre-K-8 2 Homes for neglected and dependent	1) Determined that 63 elementary, 15 non-public and 3 homes for the neglected & dependent be considered eligible 2) 11 elementary schools held harmless under poverty criteria 3) 9 Elementary schools eligible on basis of achievement criteria only 4) 43 elementary schools eligible whether poverty or achievement criteria used	Reduction in total # eligible elementary schools based on poverty criteria from 132 to 54; addition of 9 elementary schools based on achievement criteria
SCHOOL TARGETING	54 Elementary 6 Secondary 14 Non-public 2 Homes for neglected and dependent	1) All eligible schools as outlined above were served	1) Served all schools determined eligible as opposed to percentage 2) Deconcentration of services across elementary schools: addition of 9 elementary schools based on achievement criteria 3) Grade spans served shifted to include only elementary
STUDENT ELIGIBILITY	25318 Elementary (pre-K to 6) 3290 Secondary 750 Non-public (pre-K to 8) 150 Neglected and dependent students (2 homes)	23197 Elementary (pre-K to 6) 1076 Non-public (pre-K to 8) 165 Neglected and dependent (3 homes)	Decrease of 2121 elementary students eligible; secondary students not to be served by Title I
STUDENT TARGETING	19518 Elementary (pre-K to 6) 1832 Secondary (7-12) 750 Non-public (pre-K to 8) 150 Neglected and dependent (2 homes)	1) All eligible students as outlined above were served	Increase of 3679 elementary students served; shift in grade spans served

2.7.9 Changes in Intra-District Allocation Policy Resulting from the Title I Demonstration Project in Mesa, Arizona

2.7.9.1 Allocation Policy 1975-76

School eligibility in Mesa was determined by using a weighted formula involving three poverty indices as follows:

Poverty Ratio = (2 x (number of children in Free Lunch) +
3 x (Poverty, 1970 census) +
5 x (AFDC)) ÷
10 x (School population)

This formula was developed from opinions supplied by district administrators and school principals who were asked to rate each measure on a five-point scale in terms of how well it estimated the school area poverty level. The results of this survey were used in assigning the weights specified above.

All schools were ranked according to this ratio. Schools above the district average poverty ratio (7.3%) were considered eligible. All eligible schools were served. In all, 13 of 25 elementary schools, three of six junior high schools, both senior high schools, and two non-public schools were served.

Student eligibility was defined separately for reading and mathematics. Different tests and cutoff levels were used for each grade level, as summarized below.

READING	Test	Criterion
K-1	Murphy-Durrel (Sept. Administration)	Bottom 2 quartiles (national norms)
1-6	Mesa Reading Proficiency Test (1st grade, January Administration) (grades 2-6, Sept. Administration)	Less than 50% mastery
7-9	Mesa Reading Proficiency Test or Metropolitan Achievement Test (MAT)	Less than 75% mastery 1 1/2 years below grade level (national norms)
10-12	Mesa Reading Proficiency Test (also teacher's records and grades)	Less than 75% mastery

MATH	Test	Criterion
1-9	Mesa Minimal Math Assessment	Less than 50% mastery
10-12		Those failing basic math (Also those scoring in the first or second stanine on the MAT administered in the eighth grade.)

Students meeting the stated eligibility criteria in mathematics and reading were intended to be served on a priority basis, for the full school year or until they had mastered the deficient skill. In fact, however, local school decision-making, especially at the elementary level, often determined which students were actually served and for how long. Teacher judgment played a key part in student selection. A classroom teacher could refer a student to a remedial class for special help in reading and/or mathematics. Such assistance could be for a few days, a few weeks, a semester, or a school year. The use of criterion-referenced tests to assign students to remedial programs and to evaluate progress encouraged this individualized, short-term approach to remediation. The net result was that a great deal of discretion entered into the student assignment process, and many more students were served than had originally been projected.

Resource allocation across schools was based on the number of projected low-achieving students in each school. Projections were made separately for reading and mathematics and funds distributed accordingly.

Students in grades prekindergarten through 12 received services from Title I. Program components included a Very Involved Parent Program for parents of prekindergarten and kindergarten children, reading for 3,258 students in grades prekindergarten through 12, mathematics for 1,459 students in grades 1-12, English-as-a-Second Language (ESL) for 119 students in grades kindergarten through 10, and a Reading Clinic for 93 students in grades 4-6.

2.7.9.2 Development of Allocation Policy from Application to Implementation

In response to the RFP, Mesa proposed three basic changes in allocation policy:

- To substitute achievement for poverty in identifying Title I eligible schools and allocating funds to them (a learning expectancy score was proposed as one approach to determining achievement).
- To decrease the concentration of Title I funds at the school level by increasing the number of elementary schools served from 13 to 25.
- To increase within-school concentration, by decreasing the number of students in each school served.

No specific criteria or procedures were proposed. Rather, the plan emphasized the process by which such decisions would be reached. Included in this process were steps to examine the focus of the educational program, so that program and allocation decisions would be complementary. Emphasis was also placed on community involvement, empirical testing of proposed changes, ensuring an efficient transition period, and designing suitable evaluation procedures.

Among the reasons offered by Mesa for participation in the Demonstration were the following:

- The use of economic-based regulations does not allow one to reach students in greatest educational need. Educationally deprived students in non-poor schools are denied needed services.
- Achievement measures are more equitable than
  - -- outmoded 1970 census data
  - -- AFDC for which many families qualify but do not apply
  - -- free lunch counts
- Achievement measures can be used not only to determine eligibility but to monitor and evaluate progress. Program implementation can thus be assessed more readily.

- Deconcentration increases program visibility and support; it reaches the educationally disadvantaged in all schools.
- The proposed changes would help identify students most in need; the achievement levels of entering students would be lower than before.

Several things occurred during the planning year to shape the current Title I program in Mesa. Beginning in 1976-77, Mesa elementary and high school districts will be combined into one unified district. To insure equitable distribution of Title I resources across grade levels, a survey was administered to principals and PAC members. The results of this survey guided program directors in determining the proportion of the Title I budget to be allocated to elementary, junior high, and senior high levels (60%, 25%, and 15%, respectively). The survey also helped shape the ratio of elementary reading to elementary mathematics--4/3. These resource decisions were to play an important part in the final allocation model selected for 1976-77.

Prior to selecting their approach for the 1976-77 implementation year, Mesa designed and tested five different allocation models. Among those tested were:

- The Program Emphasis Achievement Model -- This model, which was actually selected, is described fully below.
- The Lowest 10% Model -- Using this model, students scoring below the 10th percentile on criterion-referenced tests in reading and/or mathematics would have been served by Title I.
- Mobility, Ethnicity, and Achievement Model -- The weighted sum of school mobility, Anglo population, and school achievement (using grade level means), would have been used to assign weights for each school. These assigned weights (in accordance with directors' recommendations for grade level emphasis) would have determined the number of students to be served at each grade level at each school.
- Low Income, Mobility, and Achievement Model-- This model, which is similar to the one above, would have substituted income variables (free lunch and AFDC) for ethnicity in assigning weights to each school.

- Expected and Actual Achievement Model -- This model would have employed a school achievement predictor (the Otis-Lennon ability test) plus selected demographic factors to compute an expected achievement level on third grade criterion-referenced scores. The assigned weight for each school would include both expected and actual achievement scores.

The number of students to be served in each school was ascertained separately for reading and mathematics, according to each of these models. The Program Emphasis Achievement Model produced the most variability among schools in number of students to be served. For this reason, and because it was the simplest and most closely related to Demonstration objectives, the Program Emphasis Achievement Model was selected.

2.7.9.3 Allocation Policy 1976-77

Applying the Program Emphasis Achievement Model, the central office determined that all elementary schools in Mesa would have a minimum of 20 eligible students. Using this minimum as a criterion, all 25 elementary schools thus qualified as eligible, as well as all six junior high schools and all three senior high schools.* All eligible schools were targeted for service. Within each elementary school, student eligibility was determined according to the following procedures:

- The results of the above-mentioned survey of PAC members and principals were used by program directors to determine the percentage of resources that each subject area in each grade would receive.
- The anticipated number of students in each subject area at each grade level was determined (assuming a constant number of FTE students over time).
- Criterion-referenced tests were administered in reading and mathematics at each grade level in the fall of 1976.

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*One new high school was opened in 1976-77.

- Using the district-wide cumulative distribution of scores, a cutoff score was determined for each subject by grade level in accordance with the number of students to be served.

- Specific students with scores below the cutoff in reading and/or mathematics were identified at each school.

Since the number of elementary students to be served actually determines the cutoff score for eligibility, the targeting decision naturally follows from the eligibility decision. That is, all eligible elementary students are served. So too, allocation of resources across elementary schools closely parallels the student selection process. At the junior high school level, eligibility is still determined by proficiency on the Mesa-developed, criterion-referenced tests in reading or mathematics. Specific cutoff levels vary, based on the grade, the test used, and the subject area. In all cases, cutoffs are based on levels of mastery, set by local or state policy. At the senior high level, students are eligible in reading if they cannot pass the ninth grade proficiency test required by the state. At both junior and senior high levels, students are served on a priority basis (neediest first), with students in higher grades served first.

Students in grades prekindergarten through 12 are projected to receive services from Title I in 1976-77. The components of the program parallel those for 1975-76, although mathematics has been eliminated at the senior high level and the district Reading Clinic no longer serves Title I students. In all, 2,900 students in grades prekindergarten through 12 were projected to receive reading instruction; 1,197 students in grades 1 through 8 were projected to receive mathematics instruction; and 120 students in grades 1 through 8 were projected to receive ESL instruction.

2.7.9.4 Summary and Conclusions

In conjunction with the Demonstration Project, a careful analysis of program content and grade level emphasis has been conducted. Program priorities have been reestablished in accordance with survey results, test data, and local philosophy. Mathematics has been eliminated at the high school level, and reading has been expanded and modified somewhat in the early grades. Overall, however, no substantial change in program focus or operations is envisioned in Mesa. The Title I program will continue to rely heavily on aides who, under the supervision of district-funded resource teachers, provide small group instruction in pull-out classes to Title I students. Title I will continue to provide some services to all grades.

The greatest impact of the Demonstration in Mesa will be on school and student targeting. All schools will be targeted, and students will be selected solely on the basis of criterion-referenced tests. There will be less chance for teacher judgment to heavily influence the decision process, although it will still be a factor. More careful monitoring should insure that eligible students will be the ones to actually receive services. Tables 2.7.9.1 and 2.7.9.2 summarize the changes in allocation policy adopted by Mesa and the effects of those changes on numbers of schools and students served.

TABLE 2.7.9.1

CHANGES IN INTRA-DISTRICT ALLOCATION CRITERIA RESULTING FROM THE TITLE I DEMONSTRATION PROJECT

Mesa, Arizona

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	1) For each school a poverty estimate is computed: [3(1970 Census)+5(#AFDC) + 2(# free lunch)] ÷ 10 (school population) 2) Mean poverty estimate for the district = 7.3% 3) All schools above the mean eligible	1) All schools with a minimum of 20 eligible students eligible	1) Direct LEA to student allocation
SCHOOL TARGETING	1) All eligible schools served	1) All eligible schools served	None
STUDENT ELIGIBILITY	1) Based on standardized and district developed criterion-referenced tests in reading and mathematics 2) Tests and cutoff points (percentiles and grade equivalents) differ by grade level and subject area 3) Teacher judgement	1) Based solely on district-developed criterion-referenced tests in reading and mathematics at elementary level 2) Cutoff score predetermined by # of students to be served by grade level and content area, in accordance with program emphasis 3) At junior and senior high levels, cutoff similar to last year 4) Teacher judgment	1) Shift from standardized tests to criterion-referenced tests as sole determinant of eligibility 2) Shift from an arbitrary cutoff at the elementary level to one which reflects the number of students to be served according to program emphasis 3) Reduces teacher judgment as a factor in establishing eligibility
STUDENT TARGETING	1) By design, students served on a priority basis, based on test scores 2) In practice, judgment of classroom teachers and specialists weighs heavily in decision	1) All eligible elementary students served 2) At junior and senior high levels, targeting similar to 1975-76	1) Same as above
RESOURCE DISTRIBUTION	1) Proportional distribution of resources across schools based upon number of children eligible on the basis of achievement. Funds allocated separately for reading and mathematics.	1) Resource allocation as determined by survey results	1) Changes related to changes in program emphasis by grade and subject area
PROGRAMMATIC EMPHASIS	1) Pre-K and K program 2) Reading and mathematics grades 1-12 3) Staffed primarily by professionals in junior high school	1) Pre-K and K program 2) Reading grades 1-12 3) Mathematics grades 1-9 4) Staffed primarily by aides in junior high schools	1) Elimination of mathematics at the high school level; reading clinic at the elementary level 2) Use of more aides at junior high school level 3) Change in allocation of resources by grade by content area, but no sizeable shifts in program delivery

TABLE 2.7.9.2

CHANGES IN SCHOOL AND STUDENT ELIGIBILITY AND TARGETING RESULTING FROM CHANGES IN ALLOCATION CRITERIA

Mesa, Arizona

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	14 Public elementary 3 Junior high 2 Senior high 2 Non-public	25 Public elementary 6 Junior high 3 Senior high (1 new school built this year) 2 Non-public	11 Public elementary 3 Junior high schools added under the Demonstration (the new high school was not added solely for Demonstration purposes)
SCHOOL TARGETING	13 Public elementary (1 school exempted because of its differentiated staffing pattern) 3 Junior high 2 Senior high 2 Non-public	(As above)	12 Public elementary 3 Junior high schools added under the Demonstration (the new high school was not added solely for Demonstration purposes)
STUDENT ELIGIBILITY	(not available)	(See targeting below)	(not applicable)
STUDENT TARGETING	251 Pre-kindergarten 861 Kindergarten 2494 Public elementary (1-6) (duplicated) 680 Junior high (duplicated) 643 High school (duplicated)	236 Pre-kindergarten 782 Kindergarten 1532 Public elementary (1-6) (duplicated) 1351 Junior high (duplicated) 321 Senior high (duplicated)	Reduction of 707 students served across grade levels

2.7.10 Changes in Intra-District Allocation Policy Resulting from the Title I Demonstration Project in Newport, Rhode Island

2.7.10.1 Allocation Policy 1975-76

During the 1975-76 school year, school eligibility for Title I services was based on two poverty criteria: 1) Aid to Families with Dependent Children (AFDC) counts; and 2) free lunch counts. The following formula was applied to these counts, which were drawn directly from school enrollment data:

$$\text{Percentage Poor} = \frac{.25 \text{ number AFDC} + .75 \text{ number Free Lunch}}{\#\text{ school-aged children in attendance area}} \times 100$$

All elementary schools whose percentage poor was above the district average of 23.9% were considered eligible. Three of nine elementary schools (grades 1-5) qualified in this manner. In addition, the middle school (grade 6), the junior high school, and the senior high school were considered eligible. Finally, one non-public school also qualified for Title I services. All eligible schools were served.

It is interesting to note that even if Newport had not chosen to implement a Demonstration Project, district administrators had prepared a change in the poverty criteria used in the determination of school eligibility. For 1976-77, the following formula would have been applied for ranking schools on the basis of poverty:

$$\text{Percentage Poor} = \frac{.40 \text{ number AFDC} + .60 \text{ number Free Lunch}}{\#\text{ school-aged children in attendance area}} \times 100$$

Using this formula to analyze current school enrollments, five schools would have been eligible for Title I in 1976-77. Thus, the granting of waivers affects four schools only.

Within each Title I school, all students scoring below the 50th percentile on standardized tests of achievement were considered eligible for compensatory services. The tests used by grade level were as follows:

Grade Span	Achievement Test
4-6	Iowa Test of Basic Skills
7-9	Science Research Associates (SRA) Tests
9 (pre-vocational students)	English Cooperative Test
10-11	English Cooperative Test

The actual number of students to be served was based on the number of eligible (low-achieving) students, adjusted to provide a common teacher/student ratio of 1 to 30 across schools. For example, if 68 children in School A were eligible and 34 in School B, 60 children in School A would receive services from two teachers and 30 in School B would receive services from one teacher. Resource allocation, as measured by numbers of instructional staff, was thus proportional to the numbers of students served in each school.

The final targeting of students from among those eligible was based on the judgment of the classroom teacher, the Title I teacher, and the principal involved. In general, they selected the lowest-achieving students, but they also took into account the "child's ability to profit" from remedial instruction. Ability was defined by scores on a group or individual test of intelligence. Formal weights were not applied.

Title I funds were used primarily for remedial reading in grades 4-12 in target schools. (State Compensatory funds provided remedial reading instruction in grades 1-3 in all schools, as well as guidance services.) In addition, the funds supported a number of home/school parent involvement activities. In all, 175 elementary students (grades 4-6), 150 junior high schools students, and 180 senior high school students received services in the public schools. In addition, 30 students were also served in one non-public school.

2.7.10.2 Development of Allocation Policy from Application to Implementation

No mention was made of serving a greater number of schools in the initial planning proposal submitted to NIE on May 4, 1975. The primary objective was to modify the criterion by which students would be selected to participate in Title I. The proposal reflected the view of LEA administrators that "remedial" instruction need not necessarily be only for slow learners, but for those who exhibit a "capacity-achievement gap," i.e., a gap between their actual and their potential achievement.

The LEA asked for the following:

- The "right to bypass" in order to select students who fall below the 50th percentile on tests of achievement but who do not score as low as others, in order to serve those with a significant gap between their achievement and potential.
- To serve five to ten percent more students on the basis of their capacity-achievement gap, despite the fact that they are scoring above the 50th percentile.

The proposal did not describe the means by which these criteria would be operationalized. Specific procedures were left for the planning year. But before the proposal was approved, one key element was removed by NIE. No students were to be served who scored above the 50th percentile on standardized tests of achievement, despite any gap between actual and potential achievement.

During the planning year, the capacity-achievement gap was defined as the difference between a student's percentile scores on standardized tests of intelligence and achievement. In addition, the district moved toward eliminating the concept of the "target" school toward serving children in all schools.

There were several reasons behind the shift to serving all schools. First, Newport's voluntary desegregation during the early 1970s had greatly homogenized schools in the system.

Students of varying ethnic backgrounds and socioeconomic characteristics were to be found in all schools, not just a few. Second, the fact that the State Compensatory Program served all schools in grades 1-3 and that Title I served only three schools in grades 4-6 had posed problems. Little or no money was available for follow-up services to low-achieving students who needed assistance in the upper elementary grades in non-target schools. Finally, the social stigma attached to Title I as a "poverty program" displeased administrators and parents alike.

2.7.10.3 Allocation Policy 1976-77

The final plan submitted to NIE in July 1976 was thus substantially different from the planning proposal submitted a year earlier. All schools were deemed eligible and all schools were targeted. In essence, then, the district decided to bypass schools in the determination of student eligibility.

In addition to changing school eligibility criteria, the district modified student eligibility and targeting criteria. Students in grades 1-12 could receive remedial reading instruction through Title I.

In grades 1-5 a different test battery was selected for determining eligibility, i.e., the Science Research Associates (SRA) Assessment Tests. As noted above, the gap between actual and potential achievement was also defined operationally as the difference in percentile units between a student's achievement and ability scores on standardized tests. Finally, a complex selection formula was developed in order to determine both students who are eligible and those who are most in need of service. This scale, Table 2.7.10.1 below, assigns *a priori* weights to student achievement on standardized tests, the capacity-achievement gap, instructional reading level, and teacher recommendation. Use of this scale is designed to reduce the amount of discretion open to teachers and school administrators

TABLE 2.7.10.1

SELECTION SCALE SCORE CRITERIA IN NEWPORT

Total Possible Points = 100*

SRA Total Reading Achievement Score		SRA Total Language Arts Score		C.A.G. Score**		Instructional Reading Level	Classroom Teacher Recommendation
%tile Score	SS/sc	%tile Score	SS/sc	CAG	SS/sc		
50-46 ---	20	50-46 ---	10	0 to -09	30	Up to one grade level below current grade placement SS/sc = 20	Could use Title I to reinforce a specific skill area SS/sc = 20
45-41 ---	18	45-41 ---	09	-10 to -19	27		
40-36 ---	16	40-36 ---	08	-20 to -29	24		
35-31 ---	14	35-31 ---	07	-30 to -39	21		
30-26 ---	12	30-26 ---	06	-40 to -49	18		
25-21 ---	10	25-21 ---	05	-50 to -59	15		
20-16 ---	08	20-16 ---	04	-60 to -69	12	Up to two grade levels below current grade placement SS/sc = 10	Could use Title I to reinforce many reading skills areas SS/sc = 10
15-11 ---	06	15-11 ---	03	-70 to -79	09		
10-06 ---	04	10-06 ---	02	-80 to -89	06		
05-01 ---	02	05-01 ---	01	-90 to -99	03		
						Three or more grade levels below current grade placement SS/sc = 0	Definitely needs Title I to remediate all reading skills areas SS/sc = 0
Total possible 20		Total possible 10		Total possible 30		Total possible 20	Total possible 20

*SELECTION SCALE SCORE CUT-OFF will be determined upon initial data analysis; second in-depth data analysis will select only students who fall below cut-off score level in order of priority from low to high on the SS/sc (i.e., low score = high priority).

**C.A.G. or Capacity Achievement Gap is equal to the difference in percentile units between a student's achievement and ability scores.

in determining which of the eligible students are actually served.

For grades 6-12, students who are most in need, and who are at least one year below their appropriate grade level in reading according to national norms, are to be served. The testing program for these grades has remained constant over the two years.

Stated district policy for allocating resources across schools in 1976-77 is the same as that for 1975-76. That is, staff are assigned based on the number of children to be served in each school, using the ratio of one staff member for 30 children.

The district projected that 445 elementary school students (grades 1-6), 150 junior high school students, and 120 senior high school students would be served in the public schools. In addition, 15 non-public school students were projected to be served.

2.7.10.4 Summary and Conclusions

Tables 2.7.10.2 and 2.7.10.3 summarize the changes made by Newport at each stage of the allocation process and the resulting effects on the numbers of schools and students served. In bypassing schools in the determination of school eligibility, Newport has tripled the number of public elementary schools to be served (three in 1975-76 versus nine in 1976-77). It has also more than doubled the number of public elementary students to be served (175 in 1975-76 versus 445 in 1976-77). Thus, Newport provides an example of a small district which has deconcentrated its services substantially at the school and student levels. It also represents a district which has operationalized student selection procedures which incorporate the gap between a student's potential and achievement.

TABLE 2.7.10.2

CHANGES IN INTRA-DISTRICT ALLOCATION CRITERIA RESULTING FROM THE TITLE I DEMONSTRATION PROJECT

Newport, Rhode Island

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	1) AFDC counts based on school enrollment 2) Free lunch counts based on school enrollment 3) School ranking = .25 X # AFDC + .75 free lunch / # School age in attendance area 4) District average = 23.9% 5) Schools above average eligible	All schools eligible	Direct LEA to student allocation
SCHOOL TARGETING	All eligible schools served	All eligible schools served	None
STUDENT ELIGIBILITY	1) Eligibility based on pretest scores below the 50th percentile in language arts and reading 2) Tests used by grade level: 1-6 ITBS 7-9 SRA 10-11 English Cooperative Test	1) Eligibility based on pretest scores below the 50th percentile in language arts and reading 2) Tests used by grade level: 1-9 SRA 10-11 English Cooperative Test	1) Change in test used in grades 1-6 2) No change in criterion or procedures
STUDENT TARGETING	1) Judgment of classroom teacher, principal, and Title I Teacher 2) Informal use of achievement/potential gap (i.e., ability vs. achievement) 3) Students served on priority basis	1) Complex empirical formula involving SRA Reading Scores = 20% SRA Language Arts Scores = 10% Capacity Achievement Gap = 30% Reading Level = 20% Teacher Recommendation = 20% 2) Students served on a priority basis	1) Formal weights applied to varying criteria 2) More emphasis on test data, including achievement/potential gap 3) More empirical ranking of children in severest need
RESOURCE DISTRIBUTION	Distribution based on teacher/student ratio, adjusted to provide a common ratio of 1 to 30 across schools	Same as 1975-76	None
PROGRAMMATIC EMPHASIS	1) Remedial Reading 2) Grades 4-11 3) Specialists work with students on a pull-out basis	1) Remedial Reading 2) Grades 1-11 3) Specialists work with teachers one day per week	1) Addition of Grades 1-3 2) Additional coordination between regular and compensatory program 3) No change in content or mode of delivery

TABLE [illegible].7.10.3

CHANGES IN SCHOOL AND STUDENT ELIGIBILITY AND TARGETING RESULTING FROM CHANGES IN ALLOCATION CRITERIA

Newport, Rhode Island

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR - 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	3 public elementary schools (1-5) 1 middle school (Gr.6) 1 junior high 1 senior high 1 non-public	9 public elementary schools (Gr. 1-5) 1 middle school (Gr.6) 1 junior high 1 senior high 1 non-public	6 additional public elementary schools eligible
SCHOOL TARGETING	3 public elementary schools (1-5) 1 middle school (Gr.6) 1 junior high 1 senior high 1 non-public	9 public elementary schools (Gr. 1-5) 1 middle school (Gr.6) 1 junior high 1 senior high 1 non-public	6 additional public elementary schools eligible (although only 4 directly attributable to Demonstration per se)
STUDENT ELIGIBILITY	Not available	Approximately 1062 (Gr. 1-6) 552 (Gr. 7-9) 626 (Gr. 10-12) (Based on reading scores only)	Not applicable
STUDENT TARGETING	175 Public elementary (Gr. 4-6) 150 (Gr. 7-9) 180 (Gr. 10-11) (including 60 prevocational 9th graders) 30 non-public	445 Public elementary (Gr. 1-6) 150 (Gr. 7-9) 120 (Gr. 10-11) 15 non-public	270 additional elementary students served

2.7.11 Changes in Intra-District Allocation Policy Resulting from the Title I Demonstration Project in Racine, Wisconsin

2.7.11.1 Allocation Policy 1975-76

The procedures used in Racine for determining school eligibility for Title I services in 1975-76 were rather straightforward. Counts from the 1970 census of the number of district children from low-income families were converted to school counts by: (1) determining the percentage of students from each of the 17 census tracts in the city attending a given school; and (2) multiplying these percentages by the number of poor students between the ages of five and 17 residing within the tracts. The percentage of low-income students for each school was then computed by dividing these counts of number poor by the number of children of the same age residing in that school's attendance area. All public schools in the district were rank-ordered on the basis of this percentage, and all schools above the district wide average of 8.55% were eligible for Title I services. Fourteen of the 29 public elementary schools (excluding kindergarten-only schools) were thereby eligible for and received Title I. Four kindergarten-only schools and four junior high schools were also eligible and were served. Two high schools were eligible, but they did not receive services. Five non-public elementary schools and one home for the neglected and delinquent also received Title I services in 1975-76.

The Title I services offered in the elementary schools consisted of the Kindergarten Follow Upward Program, which served 260 students, and the Reading/Language Arts Model Program, which served 500 students in grades 1-6. The latter program also served 60 students in five non-public schools. Other Title I services offered included: (1) the Hilltop Pre-School Program, which served 250 three- and four-year old children; (2) the Taylor Children's Home Program, which served 22 seriously emotionally-disturbed children in grades 6-9 with reading/language arts and math instruction; and (3) the Junior

High School Reading Program, which served 270 students in grades 7-9. Support services were also offered. They included a health/medical/dental component for pre-kindergarten students, a transportation component for four-year-old children in the Hilltop Preschool Program, and a Community Services Component for both students and their parents.

Student eligibility for Title I programs was determined through the use of various achievement criteria. At the elementary level, the Metropolitan Achievement Test was administered on-level to all grade 1-6 students in served schools. Those obtaining a total Reading Score at or below the 30th percentile on national norms were eligible for Title I services. Similar procedures were also followed in non-public elementary schools. Eligibility of preschool children was based on results of the locally-modified Denver Developmental Screening Test, which provided measures in four areas: social, cognitive, gross motor, and perceptual-motor skills. Children who exhibited development delay in two or more of these subject areas were deemed eligible for Title I. Eligibility of kindergarten children was based on results from the Boehme Test of Basic Concepts. Children who achieved a score of 12 or less were eligible for Title I services. Finally, at the junior high level the Comprehensive Test of Basic Skills was used to determine student eligibility. As in the elementary grades, those who scored at or below the 30th percentile were eligible for Title I.

Elementary school principals and classroom teachers, with the aid of Title I teachers, determined which of the eligible elementary students were to be served. Given computer listings of eligible students and their achievement scores, principals and teachers were instructed to select the lowest-achieving students using a "bottom up/no skip" rule (i.e., by rank ordering students and selecting from the lowest ranks without skipping an individual until the program is filled). According to the local Demonstration Project Director, this rule was followed.

Those students who were eligible for Title I but who were not selected using the no skip procedure were designated as "identified" students. "Identified" students received some Title I services, but less than those received by the selected students. The local Demonstration Project Director estimated that such elementary students received approximately 45 minutes of instruction per week. Selected students, on the other hand, received five times that amount, usually in smaller size groups than the "identified" students.

With regard to allocation of instructional resources, all but three Title I eligible elementary schools received half a teacher and two aides from the Title I program. The Knapp school received a teacher and four aides. The Fine Arts and Fundamental Schools, which are housed in the same building but which qualify separately for Title I, were treated as a single school and shared half a Title I teacher and two aides.

In addition to Title I resources, ESEA Title VII and state Compensatory Education funds were available in the district. These monies were distributed to schools which did not receive Title I support and were used primarily to acquire additional teachers and aides, as were the Title I funds for Title I schools.

2.7.11.2 Development of Allocation Policy from Application to Implementation

Racine responded to the National Institute of Education's Request for Demonstration Proposals on May 9, 1976. The following changes in the Title I program were proposed in that application:

- It is proposed that alternative measures be used as criteria for identifying Title I eligible schools and allocating funds among them--Student Achievement Measure.

- This will result in significantly decreasing the degree to which Title I funds are concentrated among eligible schools - by increasing the number of schools actually receiving Title I funds and services.
- This will also result in significantly decreasing the degree to which Title I funds are concentrated among students in Title I schools by increasing the number of students in each school actually receiving Title I services (pp. 5-6).

The primary rationale offered for this plan centered around the "radical changes in the environment (which) will take place as Racine desegregates its schools" (p. 8). That is, where the large majority of poverty and minority students had formerly been served in seven inner-city schools, in the 1975-76 school year these students were being dispersed throughout the district. If these students were enrolled in a school having a low concentration of children from low income families the school and hence the student would not be eligible for Title I services. The Demonstration Project, however, would allow the District to serve such students. According to the application, the District interpreted the Demonstration Project as a Congressional effort to "follow our integrated children into their new environment."

Although the rationale for the initially proposed changes implies school bypass (i.e., disregarding school eligibility and serving children in need wherever they exist), the use of achievement criteria to determine school eligibility is specified in the original application as one of the proposed changes. During the planning year it was decided that a bypass approach to determining school eligibility was required. This was proposed in the implementation plan. It was also proposed that the number of students served by Title I be expanded, by comparison with the previous year, and that the Title I per-pupil costs be reduced. These changes had been proposed in the original application.

2.7.11.3 Allocation Policy 1976-77

As noted in the previous section, all elementary schools in the district were deemed eligible for Title I services in 1976-77 using the school bypass approach. Twenty-nine of the 33 eligible schools (including kindergarten-only schools) were actually served. The four remaining schools received services comparable to those provided by Title I through the Special Educational Needs (SEN) Program, which was supported by state compensatory education funds.

The Title I services offered at the elementary level consist exclusively of instruction in the Reading/Language Arts Model Program. A total of 1,290 public school students in grades 1-6 are projected to receive services through this program. Twenty students from two non-public schools will also receive these services in public schools. Other Title I services offered include: (1) the Hilltop Pre-School Program which is projected to serve a total of 360 pre-kindergarten and kindergarten students; (2) the Taylor Children's Home Program which is projected to serve 25 seriously emotionally disturbed students in grades 6-9 with reading/language arts and math instruction; and (3) support services for preschool children in the form of a dental program for 285 students, and transportation for 210 students. By comparison with programs offered in 1975-76, it should be noted that the Kindergarten Follow Upward Program and the Junior High School Reading Program no longer exist in 1976-77. The elimination of these programs, which served 260 and 270 students, respectively, during their last year of existence, helped to make it possible for Racine to expand their elementary program from 500 students served in 1975-76 to 1,290 students projected to be served in 1976-77.

Student eligibility in 1976-77 was based on test performance, as it was in 1975-76. In fact, the procedures used for the Reading/Language Arts Model Program, the Taylor Children's Home Program and the pre-kindergarten portion of the Hilltop Preschool Program were the same as those used in 1975-76. Eligibility for the kindergarten portion of the Hilltop Program was limited to those with scores at or below the 30th percentile on the Developmental Test of Visual-Motor Integration, the Caldwell Preschool Inventory, and the Columbia Mental Maturity Scale.

The procedures for selecting students to be served also paralleled those used in 1975-76. Of the 2,713 elementary students deemed eligible, 1,290 will be served. The number of eligible students served by school ranged from four in the Fine Arts School to 80 in the Knapp School. The percentage of eligible students served also varied, ranging from 33% in the Knapp School to 100% in the Garfield and Fine Arts Schools. Again in 1976-77, eligible elementary students who were not selected for the Reading/Language Arts Model Programs (i.e., "identified" students) did receive Title I services. The services provided these "identified" students were comparable to those received in 1975-76.

The distribution of instructional resources to Title I schools was based on the number of eligible students in the served schools. The rule used was as follows: schools with 200 or more eligible students received a teacher and four aides; schools with 100-200 eligible students received a teacher and three aides; schools with 58-99 eligible students received half a teacher and two aides; and schools with fewer than 58 eligible students received half a teacher and one aide. This method of allocation is markedly different from the one used in 1975-76, when all but three of the schools received the same number of teachers and aides.

2.7.11.4 Summary and Conclusions

The changes in the allocation criteria resulting from the Demonstration and the effect of these changes on the number of schools and students eligible and served are displayed in Tables 2.7.11.1 and 2.7.11.2, respectively. The major changes in allocation resulting from Racine's involvement in the Demonstration are as follows:

- Schools Eligible and Served: In 1975-76, 14 elementary schools were eligible for and received services through the Reading/Language Arts Model Program using poverty criteria to determine school eligibility. Four kindergarten-only elementary schools also received Title I services. In 1976-77, 29 elementary schools were served by Title I. This represents a sizeable deconcentration of services at the school level in 1976-77 (61% more public elementary schools served in 1976-77).
- Students Eligible and Served: In 1975-76 500 students in grades 1-6 were served through the Reading/Language Arts Model Program; 1,290 students are projected to be served in 1976-77. This represents a sizeable deconcentration of services at the student level (158% more public elementary students served in 1976-77). This sizeable deconcentration is made possible in part by the elimination of the Kindergarten Follow Upward Program (260 served in 1975-76) and the Junior High School Reading Program (270 served in 1975-76).
- Resource Distribution: Procedures for distributing instructional resources to schools have also been modified and are based on the number of students eligible for Title I. In 1975-76, a more "flat-rate" distribution model was used (i.e., schools received almost equal amounts of resources).

In summary, then, Racine provides a demonstration of the effect of deconcentrating Title I resources at both the school and student levels. Given the use of the bypass approach, this district also provides a demonstration of an alternative to poverty criteria for dealing with the school eligibility issue.

TABLE 2.7.11.1

CHANGES IN INTRA-DISTRICT ALLOCATION CRITERIA RESULTING FROM THE TITLE I DEMONSTRATION PROJECT

Racine, Wisconsin

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	1) Low income children per school attendance area using 1970 census 2) Percentage ranking 3) Schools above district percentage (8.55%) eligible 4) Home for neglected and delinquent	1) All elementary schools eligible 2) Home for neglected and delinquent	1) Poverty measure eliminated - all elementary schools eligible 2) Junior highs not eligible 1976-77
SCHOOL TARGETING	1) All eligible elementary and junior high schools 2) Selected non-public schools 3) Home for neglected and delinquent	1) All but four elementary schools (four sites served with state funds) 2) Home for neglected and delinquent	1) Direct LEA to student allocation (modified slightly since four elementary schools will be served with state funds)
STUDENT ELIGIBILITY	1) Achievement criterion 2) Pre-K - Locally modified Denver Development Screening Test (deficiency in 2 areas) 3) K- Twelve or less on Boehme Test of Basic Concepts 4) Elementary - MAT - Total Reading Score - at or below 30th percentile 5) Children residing in home for neglected and delinquent - 1 year below grade level on achievement test. 6) Jr. high - CTBS - at or below 30th percentile	1) Achievement criterion 2) Pre-K - Denver Developmental Screening test (same as 75-76) 3) K - Score below 30th percentile on three separate measures 4) Elementary - MAT - total Reading Score - at or below 30th percentile	1) No change in criteria at elementary level 2) Change in test used at Pre-School level
STUDENT TARGETING	1) Students rank ordered - begin at lowest and continue up ranks using no skip rule 2) Eligible students not selected ("identified") receive reduced service	1) Same as 1975-76 2) Same as 1975-76	1) No change in criteria
RESOURCE DISTRIBUTION	1) All elementary schools but three receive equal resources	1) Based on number of eligible children in school	1) Empasis placed on number of eligible students in 1976-77
PROGRAMMATIC EMPHASIS	1) Pre-Kindergarten 2) Kindergarten follow upward 3) Reading elementary and junior high 4) Reading non-public schools 5) Reading and math in home for neglected and delinquent	1) Pre-Kindergarten and Kindergarten 2) Reading elementary 3) Reading and math in home for neglected and delinquent	1) No kindergarten follow-up 2) No reading in junior high school

TABLE 2.7.11.2

CHANGES IN SCHOOL AND STUDENT ELIGIBILITY AND TARGETING RESULTING FROM CHANGES IN ALLOCATION CRITERIA

Racine, Wisconsin

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	14 Public elementary (K-6) 4 Public elementary (K only) 4 Public jr.high 2 Public high 1 Home for neglected 5 Non-Public elementary	33 Public elementary 1 Home for neglected	83% more public elementary schools eligible than 1975-76
SCHOOL TARGETING	14 Public elementary (K-6) 4 Public elementary (K only) 4 Public jr. high 1 Home for neglected 5 Non-public elementary	29 Public elementary (note four schools served with state funds) 1 Home for neglected (note: students from 2 non-public schools were served at public schools)	Deconcentration at school level; 61% more public elementary schools served than 1975-76
STUDENT ELIGIBILITY	1,469 students in 14 elementary schools (K-6) (Information for other grades or levels not available)	2,713 Students in 29 elementary schools (Grades K-6)	85% increase in the number of students eligible
STUDENT TARGETING	500 Public grades 1-6 270 Public grades 7-9 60 Non-public grades 1-6 22 Neglected and delinquent grades 7-12 250 Pre-School 260 Kindergarten Follow Upward	1,290 Students (Grades 1-6) 360 Pre-School 25 Neglected and delinquent 20 Non-public school students	Deconcentration at student level; 158% more 1-6 students projected to be served than 1975-76

2.7.12 Changes in Intra-District Allocation Policy Resulting from the Title I Demonstration Project in Santa Fe, New Mexico

2.7.12.1 Allocation Policy 1975-76

School eligibility for the 1975-76 program year was determined by a count of students enrolled in each school who were eligible for free or reduced lunch. An income cutoff of $4,250 per family was being used as an eligibility guideline for participation in the free lunch program. Other factors were also taken into account if a school principal felt that the free lunch count/income cutoff mistakenly precluded the eligibility of needy students. These factors included consideration of the family's income, health, and housing situation. Generally, in cases in which a principal's recommendation conflicted with the free lunch count, the principal's recommendation prevailed. Principals had to be prepared to document their decisions to district administrators upon request.

Within each school in the district, the percentage of low-income students, as defined above, was compared with the district-wide average of 18.5%. All schools--elementary, junior and senior high--were ranked together. Those falling above the district average were considered eligible to receive Title I services.

All eligible schools were served in 1975-76. These included 14 public schools (12 of 16 public elementary, including one special education center, and two of four junior high schools), as well as five non-public schools. Program services were allocated to schools based on the number of students meeting student eligibility criteria (discussed below), parent and PAC pressure for equipment for a particular school, and the availability of space. Space was a particular limiting factor in schools with more eligible children than available classrooms to serve them. The district's solution to this problem was to bus children from seven schools to the nearby

Educational Service Center where they received their Title I instruction. The Educational Service Center was also used to provide more intensive Title I reading services to eligible children with the most severe educational needs.

Staff were distributed equally across all but one of the public schools served; each of these schools received one FTE reading teacher and one FTE aide. The one public school exception received only a full-time aide, as did the five non-public schools. Two FTE reading teachers worked at the Educational Service Center in conjunction with speech therapists, social workers, diagnosticians, a guidance counselor, and a nurse who provided auxiliary services to children served by the reading instruction component of the Title I program.

Student eligibility for 1975-76 was determined at the elementary level primarily by classroom teachers and Title I teachers within each school who, on the basis of previous test scores, grades, class performance, etc., identified a pool of students to be tested further. These students were administered the Gates-MacGinitie tests in September 1975. At the junior high school level, eligibility was determined by Comprehensive Test of Basic Skills (CTBS) scores from the previous year's testing (fall 1974), as supplemented by Title I teacher referrals.* In general, the following cutoffs were used in determining eligibility:

- Second graders performing more than six months below grade level;
- Third graders performing more than nine months below grade level;
- Fourth graders performing more than one year below grade level;
- Fifth graders performing more than one and one-half years below grade level;

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*Non-public students were tested using either the Gates-MacGinitie or the SRA assessment tests.

- Sixth graders performing more than two years below grade level; and,
- Eighth graders performing more than two years below grade level.

Teachers and principals could also recommend students who were ineligible for services based on test scores, but documentation of their rationale was required by district administrators. Finally, parents could recommend that their child be admitted to a Title I program; however, test scores or other data were required to substantiate need.

Student selection was conducted at the school level by the Title I teacher and principal, with input from appropriate school staff and parents. Priority was given to students with the lowest scores on the Gates-MacGinitie (grades 1-6) or on the 1974 CTBS (grades 7 and 8), as well as to students who had participated in the Title I program the previous year. In addition, teacher recommendations, which were independent of these considerations, carried a great deal of weight for some students. It was estimated by the current Title I Director that roughly five to eight percent of the students served in 1975-76 scored above the prescribed cutoffs and were served on the basis of teacher recommendation only. Finally, the LEA policy was to serve students only as long as they needed assistance, rather than for a full school year; therefore, many students moved into and out of the Title I program during the year.

The 1975-76 Title I program in Santa Fe included corrective reading for second semester first graders, as well as for students in grades 2 through 8 (public), and grades 1 through 12 (non-public). In addition, it offered support services (guidance, social work, health, speech therapy) for students in all grades. In all, the program served 859 public school children (in 14 schools) and 238 non-public school children (in five schools), for a total of 1,097 children.

2.7.12.2 Development of Allocation Policy from Application to Implementation

Santa Fe's preliminary Demonstration plan submitted to NIE in response to the RFP estimated that 3,343 students within the district (including those in both public and private/parochial schools) were reading below grade level and were therefore educationally deprived. The plan proposed to serve all of these children in all 30 schools. Allocation would be uniform for each child; the amount would equal the total Title I allocation for the district divided by the number of children to be served, i.e., $134.30 per student. Each student would be eligible to receive this amount of service, in terms of instruction, materials, diagnosis, transportation, etc. It was the district's contention that more students could be served more effectively under such a system.

Student eligibility was to be determined by the Dahl-Chambers Screening and Evaluation Model (a state-developed instrument), as well as locally-developed, objective-based tests.

Santa Fe's rationale for participating in the Demonstration was based on three factors.

- Educational deprivation does not respect family income, family residence, or school attendance areas; thus, identifying children eligible to receive Title I services on the basis of the accident of residence and/or income has no relation to educational need.
- The plan, as proposed, took a much more comprehensive approach to meeting the educational needs of students than did the current income-restricted Title I program.
- The district felt that it could serve three times as many students with the same funding level, and serve them more effectively.

During the planning year, the feasibility of expanding to so many more schools and students was seriously questioned. PAC members, in particular, objected to what they thought might be a watered-down program. Thus, while the spirit of initial plan was maintained, the final implementation proposal submitted to NIE excluded the junior high schools from allocation changes and reduced the number of students to be served.

2.7.12.3 Allocation Policy 1976-77

School eligibility for 1976-77 was based on the results of Westinghouse Learning Corporation (WLC) testing conducted during April 1976 at all elementary schools. The criteria used were simple: any school with at least one student scoring below grade level on the WLC test was considered eligible; all 16 elementary schools (plus one special education center) thus became eligible under the new criteria. Junior high school and non-public school eligibility continued to be based on low income and followed the same procedures as in 1975-76.

School selection was determined by a district policy to serve all eligible schools, as had been the case in 1975-76. For 1976-77, then, all 16 elementary schools and the Special Education Center were served, in addition to the two junior high schools and four of the five non-public schools served during 1975-76.

Allocation of services in 1976-77 was restricted by a PAC recommendation stated as a condition of the Implementation Plan approval: that the level of Title I services in 1975-76 project schools not be reduced in 1976-77. Title I could expand programs to new schools only with carry-over funds. Therefore, staffing levels at former Title I schools remained the same; staff allocation to the five new Title I schools was related to projected number of students to be served. Each new Title I school received one FTE aide, and either one FTE or .5 FTE reading teacher. The Title I program at all levels continued to focus on corrective reading.

Student eligibility for 1976-77 was based on WLC scores from the April 1976 testing (for public elementary schools), on 1974-75 CTBS scores, grades, and teacher referral (for junior high schools).* Cutoffs were the same as those used during 1975-76. In addition to test scores, teacher referral, prior Title I status, and parent referrals were used to determine eligibility of students. At the elementary level, students in each grade were rank-ordered by level of performance by the Title I teacher.

Student targeting decisions rested with the Title I teacher and school principal, as in 1975-76. Selections were based on the rank order, with priority given to the lowest achieving and prior Title I students. Program structure placed some constraints on student selection at the elementary level, in that a student's needs were considered in the context of the group with whom he or she might be receiving services. It was estimated by the Title I director that very few (fewer than in 1975-76) students would be served from above the performance cutoff because of teacher recommendation. Teachers must be able to justify the inclusion of these students in the program.

The program summary for 1976-77 corrective reading in grades 1 through 8 (public) and grades 1 through 12 (non-public), plus support services is as follows.

1,565	students projected to served in 19 public schools
170	students projected to be served in 4 non-public schools
1,735	total projected to be served

2.7.12.4 Summary and Conclusions

Tables 2.7.12.1 and 2.7.12.2 summarize Santa Fe's allocation policy changes at various stages in the decision-making process, as well as net changes in schools and students served. As can be seen, the decision to serve all elementary schools has had a dramatic effect on the number of students served. The deconcentration of services, however, will be cushioned by using carry-over funds to support services in the new elementary schools.

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* Non-public school eligibility was based on test scores. The private schools were at liberty to choose (with approval of the Title I director) which test they would use.

TABLE 2.7.12.1

CHANGES IN INTRA-DISTRICT ALLOCATION CRITERIA RESULTING FROM THE TITLE I DEMONSTRATION PROJECT

Santa Fe, New Mexico

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	1) Free lunch counts by school, supplemented or adjusted by principal judgment on such factors as income, housing, or health 2) School percentage (# poor ÷ # school age in attendance area) 3) District average 18.5% 4) Schools above average eligible	1) Westinghouse Learning Corp (WLC) test administered to elementary schools 2) Any elementary schools with at least 1 student below grade level eligible. 3) Junior high schools selected on the basis of 1975-76 poverty criteria	Direct LEA to student allocation
SCHOOL TARGETING	All eligible schools served	All eligible schools served	None
STUDENT ELIGIBILITY	1) Elementary students pre-screene on the basis of previous year's test scores, grades & class performance. Those scoring below cutoff on Gates-McKillop test in fall, eligible. 2) Jr. high students scoring belo cutoff on CTBS test from previous year or teacher referrals 3) Varying cutoff points (months o years below grade level) specified for each grade. 4) Also teacher, principal, or parent recommendation.	1) Elementary students scoring below cutoff on the WLC 2) Jr. high students scoring below cutoff on the 74-75 CTBS or teacher referral 3) Cutoffs same as 75-76	1) Standard testing of all students at elementary level; less reliance on staff judgment 2) Change in elem test 3) No other changes
STUDENT TARGETING	1) No formal rankings based on test scores 2) Selection based on judgment of Title I teacher, principal, other staff and parents 3) Priority given to lowest scoring students & previous participants 4) Approximately 5-8% served above test cutoffs	1) Selection based on rank order 2) Final decisions with Title I teacher and principal 3) Priority to previous participants	1) Same established criteria 2) In practice, less reliance on staff judgment
RESOURCE DISTRIBUTION	1) Overall resources allocation based on # eligible students, parent and PAC pressure , and space 2) 1 FTE reading teacher and 1 FTE aide per school (with the exception of one public and the non-public schools)	1) Staffing at "old" schools held harmless 2) Staffing at new schools based on same considerations as in 1975-76	None
PROGRAMMATIC EMPHASIS	1) Corrective Reading and support services 2) Grades 1-8 (public Grades 1-12 (private)	1) Corrective Reading 2) Grades 1-8 (public) Grades 1-12 (private)	None

TABLE 2.7.12.2

CHANGES IN SCHOOL AND STUDENT ELIGIBILITY AND TARGETING RESULTING FROM CHANGES IN ALLOCATION CRITERIA

Santa Fe, New Mexico

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	11 public elementary 1 Special Service Center 2 Junior high 5 non-public	16 public elementary 1 Special Service Center 2 Junior high 4 non-public	5 public elementary schools added
SCHOOL TARGETING	11 public elementary 1 Special Service Center 2 Junior high 5 non-public	16 public elementary 1 Special Service Center 2 Junior high 4 non-public	5 public elementary schools added
STUDENT ELIGIBILITY	(Not available)	(Not available)	(Not available)
STUDENT TARGETING	735 public elementary 124 public junior high 238 non-public (1-12) 1097	1285 public elementary 280 public jr high 170 non-public (1-12) 1735	638 students added (550 public elementary)

2.7.13 Changes in Intra-District Allocation Policy Resulting from the Title I Demonstration Project in Winston-Salem, North Carolina

2.7.13.1 Allocation Policy 1975-76

School eligibility for 1975-76 was based on Fourth Count 1970 Census data which in 1973 were converted to school attendance area figures to account for school population shifts resulting from desegregation. Given this information, all attendance areas in the district were rank-ordered on the basis of their percentage of poor students. All those with percentages greater than the district-wide percentage of 16.1 were eligible for Title I services. Thirteen of 37 elementary attendance areas (11 schools with grades 1-4 and two with grades 5-6) were found to be eligible and were served. Six of 11 junior high attendance areas (grades 7 and 8) and five of eight high school attendance areas (grades 9 and 10) were also eligible and were served.

Student eligibility and student targeting during 1975-76 were based on standardized achievement test results and teacher judgment. Tests included city-wide tests (Metropolitan Achievement Test--MAT) administered in the spring of 1975 to students in grades 3, 6, 8, and 10, MATs administered to all available Title I students in Title I schools at approximately the same time, and informal reading inventories administered throughout the school year. For the most part, however, student eligibility and targeting were based on teacher judgment. These procedures made it difficult to isolate objectively those students in greatest need and, therefore, to determine which students to serve from among those eligible.

Resources in the form of reading laboratories and their staffs of teachers and aides were allocated to schools so that schools with more needy students (as described above) received a greater share of the resources. The degree to which available resources determined the number of students to be served in a school rather than the number of students determining the number of labs the school would receive is unclear. That is, the physical space and staffing patterns needed for a lab delimited to some extent the number of participants. By the same token, rules for determining the concentration of services by grade level were not specified.

Reading instruction was the primary Title I service offered students in the elementary grades. A total of 1,812 students in grades 1-6 received such services, primarily through multi-media reading laboratories (115 students in two schools were involved in a reading tutorial program). Other services provided by Title I included kindergarten instruction (including health services) for 224 students, reading instruction in grades 7-8 (921 students served in multi-media labs), mathematics instruction in grades 7-10 (1,260 students served in multi-media labs), reading instruction in one non-public school (30 students served in grades 2-8), reading instruction for neglected and delinquent children (129 students served), and social work services for kindergarten children and for the neglected and delinquent (353 served).

2.7.13.2 Development of Allocation Policy from Application to Implementation

The changes described by the district in their initial proposal to NIE focused exclusively on the issue of school eligibility. Two possible approaches to changing this critical determinant of who would receive Title I services were suggested. The first of these called for the substitution of "educational deprivation" (i.e., achievement criteria) for poverty measures. The precise achievement criterion to be used to determine school eligibility was not specified, but one-third of the student body scoring below the 35th percentile was given as an example. The second alternative called for qualifying all schools on the basis of "educational deprivation" and serving the most educationally deprived in each school. This option was considered since the desegregation plan under which the district was operating left each school with a substantial number of educationally deprived students. However, only the first of these possible options was pursued during the planning year.

During the planning year the school system considered a number of possible cut-off scores for school eligibility. However, the cut-off chosen appears to have been the only one seriously considered, as was the case for the student eligibility criterion. Early in the planning year the district assumed that the eligibility of all levels of schools in the district had to be determined using the same criterion. In response to an inquiry from the district, NIE indicated that different criteria could be used for elementary and secondary schools. As a result, secondary schools' eligibility for Title I was determined using the same poverty criterion as was used in 1975-76 (i.e., 16.1% of students served by the school must be designated as poor for a school to receive services).

In their Demonstration plan, Winston-Salem offered five reasons for their involvement in this research. These are:

(1) The use of standardized achievement test results is a fairer, more reliable indicator of school eligibility than outdated poverty measures which change with urban redevelopment and with the fluctuation of public assistance rolls.

(2) The criterion for school selection should be the same as the criterion for student selection (i.e., educational need).

(3) The use of an achievement criterion is consistent with the district's pupil assignment plan. Students from low-income families are no longer concentrated in a small number of inner city schools. The plan is designed to achieve maximum desegregation, and there is no wide variation in the number of low-achieving students in most schools. Under present allocation policy, many of these students are in schools that are not eligible.

(4) Local school administrators will be given more flexibility in allocating Title I resources (i.e., greater local control of Title I).

(5) Expansion of Title I to more schools, using different selection criteria, will increase the visibility of Title I and promote its acceptance by the community.

2.7.13.3 Allocation Policy 1976-77

At the elementary level, school eligibility for the 1976-77 school year was determined using an achievement criterion. Employing data from three consecutive school years (MAT total reading scores for 1972-73, 1973-74, and 1974-75), an achievement level was projected for each elementary school. For schools with grades K-4, the scores of third grade students were used for this projection; for schools with grades 5-6, the scores of sixth grade students were used. Given these data, the percentage of students scoring at or below the 35th percentile (national norms were used) was determined for each year. Then, a weighted average for the three years was calculated. A school was judged to be eligible for Title I in 1976-77 if at least 40% of its students, as determined by the weighted average, were projected to be scoring below the 35th percentile. Using this procedure, 24 elementary schools were found to be eligible (14 schools with grades K-4 and ten schools with grades 5-6), and all 24 schools were served. Approximately 85% more elementary schools will be served in 1976-77 than in 1975-76.

In addition to serving as the basis for school eligibility, the weighted average of MAT scores also serves as the basis for resource distribution. That is, the percentage of students below the 35th percentile multiplied by the number of students enrolled in the school provides an estimate of the number of students likely to be eligible for Title I services. These estimates are then used to allocate reading labs and their accompanying teachers and aides to eligible schools. (Note that the Title I services delivered to students in grades 1-6 are exclusively in the area of reading with the exception of a mathematics laboratory in one elementary school serving

90 students, some guidance and counseling services for 1,150 students with special needs in six elementary schools, and some social work services for 500 students from 14 elementary schools.) Since the resources distributed to the school set a ceiling on the number of students that can be served, it is important to consider this link in the allocation chain. For 1976-77 the distribution of labs to schools appears to be totally dependent on the number of estimated eligible students in the school.

In addition to the services offered at the elementary level, the following services will also be offered during 1976-77: (a) reading for 1,080 students in grades 7-8 operating in the same schools as in 1975-76; (b) mathematics instruction for 1,440 students in grades 7-10 operating in the same schools as in 1975-76; (c) reading instruction for 108 students in grades 1-12 in a home for the neglected and delinquent; and (d) social work services. The elimination of the Title I supported kindergarten program represents a significant departure from 1975-76.

Student eligibility in grades 1-6 for 1976-77 (actual number of students eligible rather than estimated number eligible using previously described procedures) was determined on the basis of tests administered in August and September of 1976. At the first grade level, the Metropolitan Readiness Test was administered. All students scoring at or below the 35th percentile were eligible for services. Those with the greatest need (i.e., lowest scores) were served first. For grades 2-6 the Reading Skills Inventory was administered to those students who were identified by teachers as reading at or below a specified level (ability to read a particular book in a reading series). Since the Reading Skills Inventory is a criterion-referenced test, students were served on the basis of the number of items they answered correctly. Again, those with the lowest scores were served first. However, it appears that the amount of teacher judgment involved in determining who should be tested, the apparent non-standardized nature of the Reading Skills

Inventory, and the lack of guidelines about selection across grades can affect the selection of students to be served.

With regard to numbers of students to be served in 1976-77 (also see earlier discussion about non-elementary services), the projected figures indicate that 1,960 students in grades 1-4 and 1,350 students in grades 5-6 will receive Title I reading instruction. This would represent a 29% increase over 1975-76 for grades 1-4, a 453% increase for grades 5-6, and an 83% increase over all elementary grades. These large increases in numbers served, as well as the smaller increases at higher grade levels, have been made possible by the elimination of Title I kindergarten services and by the increased use of FY77 Title I allocation. In 1975-76 approximately $335,000 were expended in the Title I kindergarten program; in 1976-77 these services are being provided through a state supported program. In 1975-76 total Title I expenditures amounted to approximately $1,521,648, $1,006,180 of which was carry-over from FY75, and $515,468 of which came from the 1975-76 Title I allocation. It is estimated by Winston-Salem that in 1976-77 the total expenditure figure will be $2,152,792, $848,792 of which is carry-over from FY76, and $1,304,000 of which will come from the FY77 Title I allocation. Two conclusions should be drawn from this. First, although comparable estimates of numbers served for the two years across all grades are not available, the per pupil expenditures appear to be quite similar ($335 in 1975-76 versus $355 in 1976-77). Second, since only $200,000 (approximately) will be available for carry-over into FY78, it must be assumed that if the Title I allocation remains relatively constant, fewer students will be served in 1977-78 with approximately the same per pupil expenditure, or else this expenditure will be reduced to serve as many students as projected for 1976-77.

2.7.13.4 Summary and Conclusions

The changes in allocation criteria resulting from the Demonstration and the effect of these changes on the number of schools and students eligible and served in 1975-76 and 1976-77 are displayed in Tables 2.7.13.1 and 2.7.13.2. The major changes in allocation resulting from Winston-Salem's involvement in the Demonstration are as follows:

1. School Eligibility: Three of the 13 elementary schools served by Title I in 1975-76 do not qualify for Title I services in 1976-77 when achievement-based school eligibility criteria are used. Fourteen elementary schools not eligible for Title I in 1975-76 will receive such services in 1976-77 as a result of the Demonstration. Thus, a total of 24 public elementary schools will be served by Title I in 1976-77, ten of the original 13 poverty schools and 14 new schools. This represents a sizeable deconcentration of services at the school level in 1976-77.

2. Students Served: As can be seen in Table 2.7.13.2, involvement in the Demonstration has resulted in a sizeable increase in the number of students eligible for Title I services in 1976-77. Further, the number of elementary students served has increased by 83% (1,812 in 1975-76 versus 3,310 in 1976-77), while the number of junior high and high school students served has also increased slightly. The increase in elementary students served by Title I, which was made possible in part by the elimination of Title I kindergarten services and by increased Title I expenditures, represents a significant deconcentration of services at the student level in 1976-77. Such a deconcentration will be possible in 1977-78 only if the Title I per pupil expenditure is reduced.

In general, then, Winston-Salem provides a clear demonstration of the effects of changes in concentration of Title I resources at both the school and student levels. Since a poverty criterion is being used to determine the eligibility of secondary schools, it also presents a demonstration of the possible effects of the use of both achievement and poverty criteria within a single school district.

TABLE 2.7.13.1

CHANGES IN INTRA-DISTRICT ALLOCATION CRITERIA RESULTING FROM THE TITLE I DEMONSTRATION PROJECT

Winston-Salem, North Carolina

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	1) Updated 1970 Census Data by attendance area 2) Percentage Ranking 3) District-wide Percentage 16.1 4) All schools above percentage qualify 5) Home for Neglected and Delinquent serving students from district also eligible	1) Achievement Criterion 2) School eligible if 40% of students score at or below the 35th percentile 3) Eligibility of junior high and high school based on poverty (comparable to 75-76)	Increased Number of schools eligible for Title I 1976-1977
SCHOOL TARGETING	1) All eligible schools served	1) All eligible schools served	Deconcentration at school level
STUDENT ELIGIBILITY	1) Test data using 35th percentile cut-off 2) Primarily teacher judgment - sometimes aided by informal inventories 3) For kindergarten includes poverty figures and judgment of teachers.	1) 35th percentile for 1st grade reading 2) Non-standardized test for reading in other grades 3) Teacher judgment for all grades	Attempt at more structured approach using achievement measures rather than teacher judgment - not very successful
STUDENT TARGETING	1) Greatest need - no other criteria specified	1) Greatest Need	No significant change
RESOURCE DISTRIBUTION	1) Based on number of eligible students in each eligible school 2) Precise cut-offs not specified	1) Based on number of eligible students in each eligible school 2) Precise cut-offs not specified	No change
PROGRAMMATIC EMPHASIS	1) Multimedia reading labs in Gr. 1-6 and 7-8 2) Kindergarten instruction 3) Multi-media math labs in Gr. 7-10 4) Reading for Negl. & Delinquent 5) Social work for Kindergarten and Neglected & Delinquent	1) Multimedia Reading labs in Gr. 1-6 and 7-8 2) Multimedia math labs in Gr. 7-10 - Pilot in Gr. 1-6 3) Reading for Neglected and delinquent 4) Social work for Elementary School Students	1) Kindergarten no longer Title I supported (not effect of Demonstration).

TABLE 2.7.13.2

CHANGES IN SCHOOL AND STUDENT ELIGIBILITY AND TARGETING RESULTING FROM CHANGES IN ALLOCATION CRITERIA

Winston-Salem, North Carolina

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	13 Public Schools Gr. 1-6 6 Public Schools Gr. 7-8 5 Public Schools Gr. 9-10 1 Non-Public Elementary School	24 Public Schools Gr. 1-6) 6 Public Schools Gr. 7-8 5 Public Schools Gr. 9-10 1 Non-Public Elementary School	Three schools served in 75-76 not eligible in 76-77. Fourteen schools eligible in 76-77 not eligible in 75-76.
SCHOOL TARGETING	All eligible schools (except 11-12 grade schools)	All eligible schools (except 11-12 grade schools)	(See above)
STUDENT ELIGIBILITY	4450 students, Gr. 1-6 Reading 2327 students, Gr. 7-8 Reading 6107 students, Gr. 7-10 Math (others not specified)	6349 Students, Gr. 1-6 Reading 2027 students, Gr. 7-8 Reading 108 Neglected & Delin. 30 Non-public Schools Reading 5146 students, Gr. 7-10 Math 90 students, Gr. 1-6 Math	Increased number (1999) of elementary students eligible for reading using achievement criterion (45% increase)
STUDENT TARGETING	1812 students, Gr. 1-6 Reading 224 students for kindergarten 921 students Gr. 7-8 Reading 1260 students, Gr. 7-10 Math 129 Neglected & Delin. 30 Non-Public School students (Reading) 353 Students social work services 1035 Guidance	3310 students, Gr. 1-6 Reading 1080 students, Gr. 7-8 Reading 1440 students, Gr. 7-10 Math 108 Neglected and Delinquent 30 Non-public school students 90 Students, Gr. 1-6 Math 1150 Students, Gr. 1-6 Social Work	Decreased concentration of Title I services at the student level (made possible by Demonstration and in part by elimination of Title I kindergarten services); 1498 more elementary students served by reading program (83% increase)

2.7.14 Changes in Intra-District Allocation Policy Resulting from the Title I Demonstration Project in Yonkers, New York

2.7.14.1 Allocation Policy 1975-76

Eligibility of schools for Title I services in 1975-76 was based on AFDC counts calculated by school attendance area. Relevant project documents indicate that 1970 census data and Free Lunch counts were also used. However, a careful reading of these documents indicates that: (1) Free Lunch data were used only to corroborate decisions made with AFDC data;* and, (2) the "data" extracted from the 1970 census were the definitions and boundaries of census tracts and not poverty data per se. To determine school eligibility, therefore, the number of students from families receiving AFDC support was calculated by school attendance area. These counts were converted to a percentage poor figure and were compared with the district-wide average (22%). Those schools above this average were eligible for Title I services. Twelve of the 31 elementary schools in the district were thereby eligible. Four of eight middle schools and junior high schools, and one of five high schools were also eligible using the same procedure. Students in five non-public elementary schools and one home for the neglected and delinquent were also eligible to receive Title I services.

Having determined school eligibility on economic grounds, the district based school targeting on achievement test results. District-wide reading and mathematics scores (MAT) were used for this purpose. Precise criteria for school selection were not specified; however, according to project documents, schools were served on the basis of greatest educational need. Using this criterion, nine of the 12 eligible elementary schools were targeted for Title I services. According to project documents, these are the same schools which would have been served if concentration of services had been based on economic need. In addition to these elementary schools, the four eligible middle schools, the one eligible high school, the five non-public schools, and the home for the neglected and delinquent also received Title I services.

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* According to the 1975-76 Title I Application, "Schools reporting the largest numbers of children eligible for free lunches are the same schools as identified above" (p. 3).

Student eligibility within targeted elementary schools was based on MAT results. Elementary students with reading (subtest not specified) or mathematics (concepts and computation subtests) scores below grade level (based on national norms) were eligible for the respective services. Students served were selected on the basis of greatest need from among those eligible. Classroom teachers and reading specialists had a great influence on which students were actually served, since all students were referred for services by their teachers.

Within schools, services were distributed approximately evenly across the grades served. Distribution of resources across schools appears to have been based, roughly, on the number of eligible children (based on achievement) in the schools. No precise criteria for resource distribution, however, were specified.

The Title I services offered in the public elementary schools consisted of reading instruction for selected students in grades 1-6, mathematics instruction for students in grades 2-5, and Bilingual/ESL instruction for students in grades 1-6. A total of 1,655, 350, and 480 public elementary school students received reading, Bilingual/ESL, and mathematics services, respectively. A total of 455, 78, and 180 non-public school students (in five schools) received similar services in similar laboratory-oriented settings (i.e., multi-media pull-out programs). The following Title I services were offered in addition to the elementary services: (a) reading and mathematics instruction for approximately 135 and 130 students, respectively, in one Yonkers high school; (b) reading and mathematics instruction for 115 and 230 students, respectively, in grades 6, 7, and 8 in four middle schools; and, (c) reading and counseling services for 75 students (37 in grades 1-6 and 38 in grades 7-12) in a home for the neglected and delinquent.

2.7.14.2 Development of Allocation Policy from Application to Implementation

Yonkers responded to the National Institute of Education's Request for Proposal in late May 1975. The following changes in Title I were proposed at that time:

- The project will significantly alter the concentration of resources on students by increasing the number of students in a school receiving aid and will alter the concentration of resources on a school by increasing the total number of schools funded.
- Identification of schools to which funds will be allocated will continue to be based on poverty and indices of achievement, although as concentration on schools is decreased, the cut-off point for inclusion will rise above present levels.
- A curriculum redesign affecting the total school program will intensify the impact on target schools and result in more efficient utilization of resources. Despite the deconcentration of funds at the school and student levels, the net result of this curriculum change (a diagnostic-prescriptive reading curriculum in which all or large numbers of students in each classroom receive Title I services on a pull-out basis and in which these services are more effectively coordinated with regular instruction) is expected to be an intensification of instruction for these same schools and students.

The rationale offered for this plan included the following considerations:

1. Large quantities of funds have been expended nationally on compensatory programs. Achievement gains have not been commensurate with the dollars expended and, in many cases, not even demonstrably related to the level of funding.

2. It is clear from an examination of the failure of many funded programs that "more of the same"--i.e., an extra helping or two of what didn't agree with the student in the first place--is not the answer to the needs of disadvantaged students.

3. Even when a specific funded program (e.g., an excellent remedial reading teacher, an effective programmed material, a set of relevant field experiences) is a beneficial experience for the target students, if the bulk of the school day is made up of experiences that are unsatisfactory, then the positive impact of the effective program can be washed out by the totality of the school day. This phenomenon may account for the apparent failure of even successful programs to make a major difference in the student's total school achievement level.

The original planning proposal was altered somewhat during the planning year. The major changes evident in the Implementation Proposal submitted in June 1976 included: (a) serving the same number rather than an increased number of schools; and (b) maintaining the same rather than the higher poverty cut-off for school identification. The curriculum redesign through which Title I services were to be delivered to whole or almost whole classes of students within targeted schools was retained in four of the nine schools served by Title I. These changes were largely the result of the strains placed on the school system by the city's severe financial problems. The immediate consequence of these problems on the school system was the closing of six elementary schools, some of which would have received Title I as a result of the Demonstration.

2.7.14.3 Allocation Policy 1976-77

The procedures for determining school eligibility in 1976-77 were the same as those used the previous year. The district-wide poverty ratio was also unchanged. Fourteen schools, ten of which were elementary schools, qualified for Title I services.

School targeting was again based on students' reading and mathematics scores from the Metropolitan Achievement Test (MAT). Project documents imply that the targeted schools were those with the greatest academic need. As in 1975-76, however, a precise definition of greatest academic need was not given. Nine of the ten eligible public elementary schools received Title I services.* Six of these also received Title I services in 1975-76; three did not. Since three schools which received Title I in 1975-76 were among the six elementary schools closed, this changes in schools targeted can be attributed to factors other than the Demonstration.

Four of the nine targeted schools have been designated Demonstration schools. Two of these received Title I in 1975-76 and two did not. In these schools, whole (or close to whole) classes of students receive reading instruction in the Title I lab. By simultaneously pulling all children out of the classroom rather than just the poor achievers, as would have been the case in the past, the district hopes to eliminate any possible stigma attached to Title I instruction. In these schools, determination of student eligiblity and targeting is very complicated, since all children are dealt with according to need. This implies that those in greater need, as determined by standardized achievement and criterion-referenced tests, receive a greater amount of or a different type of instruction than students whose need is not as great. However, the district has specified neither the amount of services these students with various needs should receive nor the ways in which the services might differ from those traditionally delivered.

In the five remaining Title I schools, student eligibility and targeting decisions are based on achievement test results and teacher judgment. Project documents indicate that students with Metropolitan Achievement Test scores at or below the 23rd percentile are eligible for Title I services and that those with the greatest need are served. Since teacher referral is a prerequisite for student selection, however, professional judgment must be considered an important factor in these decisions.

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* Project documents indicate that these same nine schools would have been selected if a poverty criterion had been used to determine greatest need.

Resources are distributed to schools on the basis of the number of students receiving reading or mathematics instruction. A school receives $319 for each student receiving reading instruction and $248 for each student receiving mathematics instruction. Since more students in Demonstration schools receive Title I instruction, the Title I dollars allocated to these schools exceed those allocated to the non-Demonstration schools.

With the exception of a small (n=75) reading program offered in one middle school and reading and psychological services offered in the home for the neglected and delinquent (n=75), Title I services during 1976-77 will be concentrated in the elementary schools (nine public and five non-public). Services will consist primarily of instruction in reading and mathematics. A total of 2,555* students (grades 1-6) and 1,489 students (grades 1-5) will receive reading and mathematics services, respectively, in public elementary schools. A total of 568 and 222 students, respectively, in grades 1-6 in three non-public schools will receive reading and mathematics services. Teachers in Demonstration schools will also receive intensive training in individualizing Title I instruction.

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* Figure will increase when projections are received from the fourth public school listed as a Demonstration Title I school.

2.7.14.4 Summary and Conclusions

The major changes resulting from Yonkers' involvement in the Demonstration, which are described in Tables 2.7.14.1 and 2.7.14.2, include the following:

(1) an increased concentration of Title I services at the elementary school level;

(2) a deconcentration of services at the student level within elementary schools, particularly within Demonstration schools, resulting in greater numbers of students served; and

(3) proposed greater coordination between regular and Title I instruction made possible through teacher training.

The Demonstration has had no appreciable effect on the criteria for school eligibility or school targeting. Student eligibility and targeting criteria within the Demonstration Title I schools have been affected. However, since teacher judgment has played a role in student selection in both years, the exact effect of the Demonstration on student eligibility and targeting is not yet clear. It does appear, though, that an increased number of students will be served in 1976-77.

TABLE 2.7.14.1

CHANGES IN INTRA-DISTRICT ALLOCATION CRITERIA RESULTING FROM THE TITLE I DEMONSTRATION PROJECT

Yonkers, New York

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	1) Based primarily on AFDC counts by school attendance area 2) Schools ranked by percentage 3) District-wide average 22% 4) Those above this average eligible	Same as 1975-76	No change
SCHOOL TARGETING	1) Based on degree of school "disadvantagement" (i.e., achievement criterion using MAT scores) 2) Schools with greatest educational need selected--precise criteria not given	Same as 1975-76	No change
STUDENT ELIGIBILITY	Reading or math score below 23rd percentile for respective services (MAT); 2 years or more below grade level also used as a criterion	1) Reading or math score below 23rd percentile or 18 or more months below grade level for majority of schools 2) In Demonstration schools (4 public and 1 non-public elementary) a combination of achievement and teacher judgment (precise criteria not specified) allowing whole or almost whole classrooms of students to be eligible.	1) No change in non-Demonstration schools 2) All or Almost all students eligible in Demonstration schools
STUDENT TARGETING	1) Based on greatest academic need (no greater specificity offered) 2) Teacher judgment	1) Same as 1975-76 for non-Demonstration schools 2) In Demonstration Schools the amount and type of service received by students with different needs will vary	More flexible criteria in Demonstration schools resulting in greater number of students targeted
RESOURCE DISTRIBUTION	Based roughly on number eligible by school	Based roughly on number eligible by school--greater number eligible results in more resources to Demonstration schools	Increased concentration of resources in Demonstration schools
PROGRAMMATIC EMPHASIS	1) Reading in lab setting (1-6) 2) ESL/Bilingual (1-6) 3) Math (1-6) 4) Reading & Math (9-12) 5) Reading & Math non-public elementary (1-8) 6) Reading & Math in middle school (7-8) 7) Psychological Services--home for neglected (1-12)	1) Same except that high school services are no longer offered 2) Increased emphasis on teacher training in Demonstration schools	1) No high school services 2) Greater coordination between Title I and regular school program in Demonstration schools

TABLE 2.7.14.2

CHANGES IN SCHOOL AND STUDENT ELIGIBILITY AND TARGETING RESULTING FROM CHANGES IN ALLOCATION CRITERIA

Yonkers, New York

ALLOCATION DECISION	SCHOOL YEAR 1975-1976	SCHOOL YEAR 1976-1977	CHANGES RESULTING FROM THE DEMONSTRATION
SCHOOL ELIGIBILITY	12 Public Elementary 4 Middle Schools 1 High school 1 Home for Neglected and Delinquent 5 Non-public elementary	10 Public Elementary 3 Public Middle 1 Public High School 1 Home for Neglected and Delinquent 5 Non-public elementary	Actual schools eligible changed - due to school closings rather than Demonstration.
SCHOOL TARGETING	9 Public Elementary 4 Middle Schools 1 High school 1 Home for neglected and delinquent 5 Non-public elementary schools	9 Public Elementary 1 Public Middle 1 Home for neglected and delinquent 5 Non-public elementary	6 of 9 Public Elementary schools served in 1976-1977 also served in 1975-1976 (not due to demonstration) High School not served and fewer middle schools served (may be due to Demonstration)
STUDENT ELIGIBILITY	3000 Gr. 1-6 Reading 900 Gr. 1-6 ESL/Bilingual 4488 Gr. 1-6 Math 2600 Gr. 6-8 Reading 2200 Gr. 6-8 Math 3950 Gr. 9-12 Reading 3900 Gr. 9-12 Math 75 Neglected & Delinquent	6307 Gr. 1-5 Reading 3507 Gr. 1-5 Math 270 Gr. 6-8 Reading 75 Neglected and Delinquent	Significant increase in number of elementary students eligible in reading in 1976-77
STUDENT TARGETING	1655 Elementary reading 350 Elementary Bilingual/ESL 480 Elementary math 115 Middle school reading 230 Middle school math 135 High school reading 130 High school math 75 Home for neglected and delinquent 455 Non-public reading 78 Non-public bilingual/ESL 180 Non-public math	2555 Public elementary reading (including Bilingual/ESL) 1489 Public elementary (gr. 1-5) math 75 Middle school reading 75 Home for neglected and delinquent 568 Non-public elementary reading 322 Non-public elementary math	Deconcentration at elementary level, particularly Demonstration Schools 1559 more public elementary students served (duplicated counts)--63% increase

2.7.15 Summary

The changes in intra-district allocation policy resulting from the Title I Demonstration have been described on a site-by-site basis in this section of the report. Despite the unique features of each of the districts and their Demonstration plans, certain typologies or groupings of districts on key policy variables relating to the allocation process (e.g., school eligibility, school targeting) can be discerned. These typologies are important since they indicate in an abstracted and organized fashion the popularity of options available to the districts at each of the various stages of the intra-district allocation process. They are also meaningful because they provide groupings of districts that will be useful for analytic purposes. The next two sections of this report (Sections 2.8 and 2.9) address in considerable detail the typologies which have emerged.

2.8 Types of Change Initiated by the Demonstration LEAs

In the previous section of this report we offered a detailed description of the changes in intra-district allocation policy proposed by each of the 13 LEAs participating in the Demonstration. In this section we describe the common themes found among the various district policies, and, on this basis, we organize the districts according to the most policy relevant types of changes they have proposed. The heuristic device used for this organization and description of types of changes is again the division of the intra-district allocation process into the previously described six stages.*

The first stage of the intra-district allocation process, determining the eligibility of schools to receive Title I services, is the stage at which the majority of LEAs made the most explicit changes in allocation policy. The changes which they initiated can be categorized into four types. These represent the most comprehensive typology useful for the analysis of the results of allocation policy changes.

The first type includes LEAs which do not consider school eligibility to be a factor in allocating Title I resources. They define all schools as eligible and distribute services simply on the basis of the eligible students who happen to attend those schools. The second type includes districts which allocate Title I resources to schools purely on the basis of the level or incidence of educational disadvantage in those schools. These LEAs substitute achievement test scores for poverty indicators in determining the eligibility of schools.

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*It should be emphasized again that the allocation process involves simultaneous decisions at a number of these stages; decisions do not take place in a neat sequence.

They use formulas quite similar to those which are applied under current regulations using poverty indicators. The third type, at the stage of determining eligibility of schools, includes those LEAs which introduce achievement test scores in a formula for determining the eligibility of schools, but which also continue poverty calculations for part of the allocation. Finally, there are LEAs which continue the exclusive use of poverty in the determination of eligibility of schools, essentially maintaining current practice at this stage in the allocation process.

The first type of policy in determining school eligibility is called "direct district to student allocation." The LEAs bypass schools and allocate the resources directly to eligible students. The policy is one which does not necessarily result in all schools receiving Title I resources,* but does in fact include all schools in the seven LEAs in the Demonstration which have chosen this option. The seven LEAs which have adopted this option are Adams County, Colorado; Alum Rock, California; Harrison County, West Virginia; Mesa, Arizona; Newport, Rhode Island; Racine, Wisconsin; and Santa Fe, New Mexico.

In Section 2.6 we pointed out that eight of the 13 LEAs had targeted all eligible public elementary schools in 1975-76, thus dispersing services to the maximum number of schools. Of the seven LEAs which have chosen the direct student allocation option, five were among those serving 100% of the eligible schools. Thus, the LEAs choosing this option are among those LEAs which were predisposed towards dispersing services to a larger number of schools. It can be further noted that the LEAs choosing the direct district to student allocation option tend to serve a higher ratio of students to LEA eligible students in 1975-76. They vary in the degree to which the proportion of resources allocated to schools is correlated with the number of LEA formula eligible students.

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*This policy would not result in Title I resources being distributed to all schools if there were schools which had no eligible students or there were schools which had so few eligible students that the smallest program unit could not be maintained in a given school. In the latter case, for example, this would happen if a program was designed to serve students in units of 20 and there were only three eligible students in the school.

The second policy option type at the school eligibility stage is the "pure achievement school allocation." Using this approach, a school is considered eligible if a specified proportion of students in that school score below a specified percentile on a standardized achievement test. This option is being implemented in Charlotte, North Carolina, and Winston-Salem, North Carolina. These two LEAs chose the 30th and 35th percentile, respectively, as their nationally-normed achievement cutoff and define a school as eligible if 35% and 40%, respectively, of the students score below this cutoff. The effect in both districts is to define more schools as eligible than had been under the poverty criterion, as well as to actually withdraw Title I services from some public elementary schools and to provide them for the first time in others. Both of these LEAs served all eligible elementary schools in 1975-76. They had varied proportions of eligible students served in 1975-76, however, and quite varied correlations between the number of eligible students and the amount of resources received by the schools.

The third type of allocation policy option chosen by the districts at the school eligibility stage was to introduce an achievement criterion but not abandon the use of poverty indicators. This we refer to as "achievement plus poverty" school allocation. The districts which chose this approach applied quite different decision-making rules, but with somewhat similar results.

Houston based school eligibility in 1976-77 on both achievement and poverty criteria. All schools in the district were ranked on the basis of achievement. Schools which had qualified for Title I in 1975-76 but were not among the most needy schools using the achievement criteria were deemed eligible for Title I under the so-called "hold harmless" provision. Schools also qualified under both the "hold harmless" provision and the achievement criteria; others qualified using the achievement criteria alone. Nine schools are held harmless, and nine schools are served for the first time under the achievement criterion alone. During 1975-76, Houston had served a small proportion of all public elementary schools, a relatively small proportion of all eligible schools, but a relatively large proportion of eligible students, with a moderately high correlation between the number of eligible students and the amount of instructional resources. However, while neither the number nor proportion of schools and students served changed dramatically, the allocation of resources among them did.

The second LEA which chose the achievement plus poverty option for determining the eligibility of schools was Boston, Massachusetts. Boston began with a "hold harmless" provision. Thus, it was decided at the beginning of the Demonstration that all schools which had been eligible under poverty would continue to be eligible during implementation of the Demonstration. In fact, unlike Houston, Boston also allocated approximately the same amounts of funds and resources to those schools. Following these decisions, all remaining public elementary schools were ranked on each of three different achievement measures: first, on the percent of students reading below grade level; second, on the number of students reading below grade level; and third, on the average amount below grade level at which students were reading. Three public elementary schools were selected from the top of each of these three rankings. By this method, seven public elementary schools received Title I services for the first time because of educational disadvantage.

In 1975-76 Boston had served all eligible public elementary schools and had served a relatively high proportion of all eligible students. There was also a high correlation between the amount of instructional resources allocated to schools and the number of formula eligible students within these schools. Thus, the type of change instituted affects few schools and students. Boston is like Houston in that changes in the number and proportion of schools and students do not change dramatically. Unlike Houston, changes in the distribution of resources among schools and students does not change except at the margins.

The fourth and final type of allocation policy initiated at the school eligibility stage was the continued use of poverty measures for the ranking of schools. This policy was followed in Yonkers, New York, and Berkeley County, West Virginia. Both are cases in which the most important and explicit policy changes resulting from the Demonstration do not take place at this stage in the intra-district allocation process.

Yonkers, New York has faced fiscal crisis and the resultant closing of schools. School eligibility was still based on poverty in 1976-77, but because of the reassignment of students, the specific schools eligible for Title I changed. Thus, ten elementary schools qualified for Title I services in 1976-77, six of which had also qualified in 1975-76.

School Targeting

As was the case with many districts across the country,* a large number of the Demonstration LEAs served all eligible elementary schools in 1975-76. Adams County, Houston, Mesa, and Yonkers were the exceptions, serving 60%, 41%, 93%, and 75%, respectively, of those eligible. In 1976-77 all districts except Yonkers (90%) and Racine (88%)* are serving all of their eligible schools. Thus, it appears that the distinction between eligibility and targeting of schools, which was somewhat blurred in 1975-76, has virtually disappeared in 1976-77. However, it should be noted that under the poverty criteria employed in 1975-76, targeting followed and was dependent on eligibility. Under criteria employed in 1976-77 (i.e., usually achievement) eligibility follows and is dependent on targeting.

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*According to results of a national probability sample of school districts an average of 90% of the schools classified by LEAs as eligible receive Title I funds. See National Institute of Education, Evaluating Compensatory Education: An Interim Report on the NIE Compensatory Education Study (Washington, D.C.: 30 December 1976).

For example, in Charlotte and Winston-Salem the achievement cutoff scores for school eligibility were determined by the number of schools that could actually be targeted. In Houston, a similar process took place with regard to the number of schools that could be added using the achievement criterion.

Table 2.8.1 indicates the actual percentage of public elementary schools served, eligible and not served, and neither eligible nor served during 1976-77. Column 2 (percent eligible but not served) is zero for every LEA except Racine and Yonkers. Columns 1 (percentage served) and 3 (not eligible, not served) vary considerably. (This table can be compared to Table 2.6.2 to contrast 1976-77 with 1975-76.)

Targeting "all" eligible schools in 1976-77 means serving more schools than were served in 1975-76. This is particularly true in the direct allocation districts, and is due there, as in other cases, to an increase in the number of schools eligible using the "new" eligibility rules. Since all

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*The four eligible Racine schools not receiving Title I support in 1976-77 are being served with state compensatory monies. If Racine continues the Demonstration as currently implemented, all eligible schools will receive Title I support in 1977-78 when state monies will not be available.

TABLE 2.8.1

PERCENT OF ALL PUBLIC ELEMENTARY SCHOOLS ELIGIBLE AND SERVED, ELIGIBLE AND NOT SERVED, NEITHER ELIGIBLE NOR SERVED IN THE NIE TITLE I ESEA COMPENSATORY EDUCATION DEMONSTRATION (1976-1977)

DEMONSTRATION LEA	% Elementary Schools Served 76-77 ** (1)	% Elementary Schools Eligible But Not Served 76-77 *** (2)	% Not Eligible, Not Served 100- (1) + (2) (3)	Total Elementary Schools (4)
Adams County #12, Colorado	100%	0[A]	0	16
Alum Rock, California	100%	0	0	18
Berkeley County, West Virginia	79%	0	21%	14
Boston, Massachusetts	68%	0	32%	109
Charlotte, North Carolina	76%	0	24%	73
Harrison County, West Virginia	100%	0	0	30
Houston, Texas	37%	0[B]	63%	169
Mesa, Arizona	100%	0[C]	0	25
Newport, Rhode Island	100%	0	0	9
Racine, Wisconsin *	88%	12%	0	33
Santa Fe, New Mexico	100%	0	0	16
Winston-Salem, North Carolina	65%	0	35%	37
Yonkers, New York	36%	4%[D]	60%	25

*See footnote on previous page.

**For the sake of clarity, only elementary school figures are presented in this table. The effect of the Demonstration on the total number of schools eligible and served would be somewhat different.

***During 1975-76, nine of the 13 LEAs also contained no eligible elementary schools which were not served. Those which contained some such schools are indicated by an alphabetic footnote with the percentages for 1975-76 indicated below:

A = 40%
B = 59%
C = 7%
D = 25%

districts are serving an increased number of schools in 1976-77, the concentration of resources per school will be reduced for all districts. Again, this is particularly true in the direct student allocation LEAs. Whether this deconcentration to schools results in fewer resources per student depends on concentration at the student level, which is discussed in a later section.

Distribution of Resources to Schools

In most cases, the deconcentration of services at the school level (i.e., serving more schools) will mean decreased funds per served school. However, this will not be a constant percentage decrease across all schools within most districts, due to the fact that many districts have elected to change their method of distributing resources to schools.

Traditionally, Title I guidelines have suggested that resources be more heavily concentrated, and a wider variety of services provided, in areas having greater concentrations of the needy poor.* This would seem to imply that resource distribution be based on the percentage (or number) of poor in a school, despite the fact that the educationally disadvantaged students within the school have traditionally been the ones served.

In 1975-76 the Demonstration districts, like districts across the country, used a variety of procedures for determining the amount of resources to be allotted to each school.** The districts' stated criteria ranged from number or percentage of poor students to incidence or severity of educational need to, in one case, an identical amount per school. The results of applying these criteria were that the differences between schools in resources per poor pupil were very large. In fact, they ran as high as 6 to 1 in one district. Across districts, the ratio between the school with the highest resource level per pupil and the lowest resource level per pupil averaged approximately 3 to 1.

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*Program Guide 44, which was more advisory than obligatory. New regulations specify that a poverty-eligible school need not receive services if its level of educational deprivation is less than in other targeted schools.

**See Section 2.6 for a description of the procedures used in 1975-76.

In 1976-77, in keeping with their overall interest in directly serving the educationally needy without first going through the poverty screen, 12 of the 13 districts have elected to distribute funds to schools based on the number of educationally needy students in each school. The stated criteria are more systematically aimed at matching the amount of resources to the number of educationally needy children. The closeness of the fit between the number of the educationally needy and the resources per school will still vary, depending on the districts' ability to reallocate staff (the largest resource), to find space for programs in schools, etc. While there is still a range of resources distributed to schools within districts, it is smaller than in 1975-76--averaging approximately 2 to 1 across districts in 1976-77.

To illustrate the results of the newly implemented allocation policies we present a series of figures for purposely selected LEAs as we did in Section 2.6. We have selected from among each of the first three school eligibility allocation types, excluding the fourth, which represents no change. We have selected both LEAs which have adopted pure-achievement school eligibility options (Charlotte and Winston-Salem) because they are particularly important, and also because they provide direct comparisons with the 1975-76 proportional distribution to schools presented in Section 2.6.

Houston represents the school eligibility policy option of poverty plus achievement rankings. Houston's policy for the distribution of resources to schools is important because it represents the most explicit LEA-initiated efforts to introduce rational decision rules and school level accountability into the within-district funds allocation system. As described in Section 2.7, the allocation to schools was calculated as a product of the number of low achieving students and a constant per pupil cost. The principals, with the consent of a school-level committee, selected from a shopping list of program units to match that amount. Additional negotiations between principals and administrative staff as well as program maintenance decisions in some schools allow for the deviation of resulting school allocations from the calculated allocations. These results are illustrated in Figure 2.8.1, which shows the allocation pattern based on the number of students eligible, and Figure 2.8.2, which illustrates the same pattern based on actual number of students served.

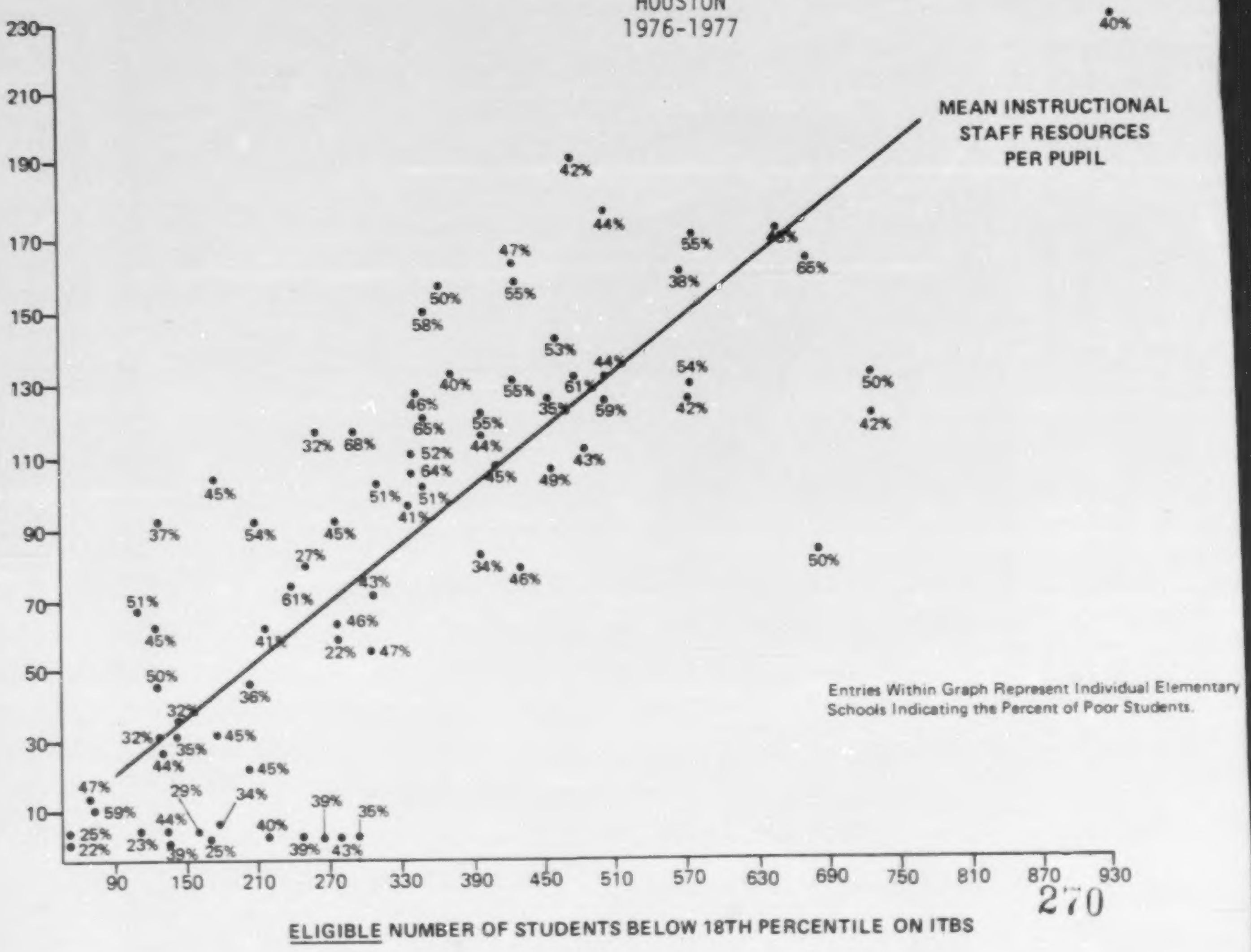
Figures 2.8.1 and 2.8.2 illustrate for Houston the close association of allocations to the average allocation slope (i.e., the resources which a school would receive if allocations were based solely on the number of educationally needy students). They also illustrate the deviation due to program unit maintenance. All schools would fall directly on the line if no such deviations were allowed.

Charlotte, Winston-Salem and Racine did not have a shopping and bargaining process such as the one which took place in Houston. Even so, as can be seen in Figures 2.8.3 to 2.8.8, all schools do not fall on the average slope line. Therefore, resource distribution in these districts was affected by factors other than the number or percentage of educationally needy students in eligible schools.

Figure 2.8.1

NIE Title I Demonstration Compensatory Education Program-Proportional Distribution of Title I Instructional Resources Among Elementary Schools

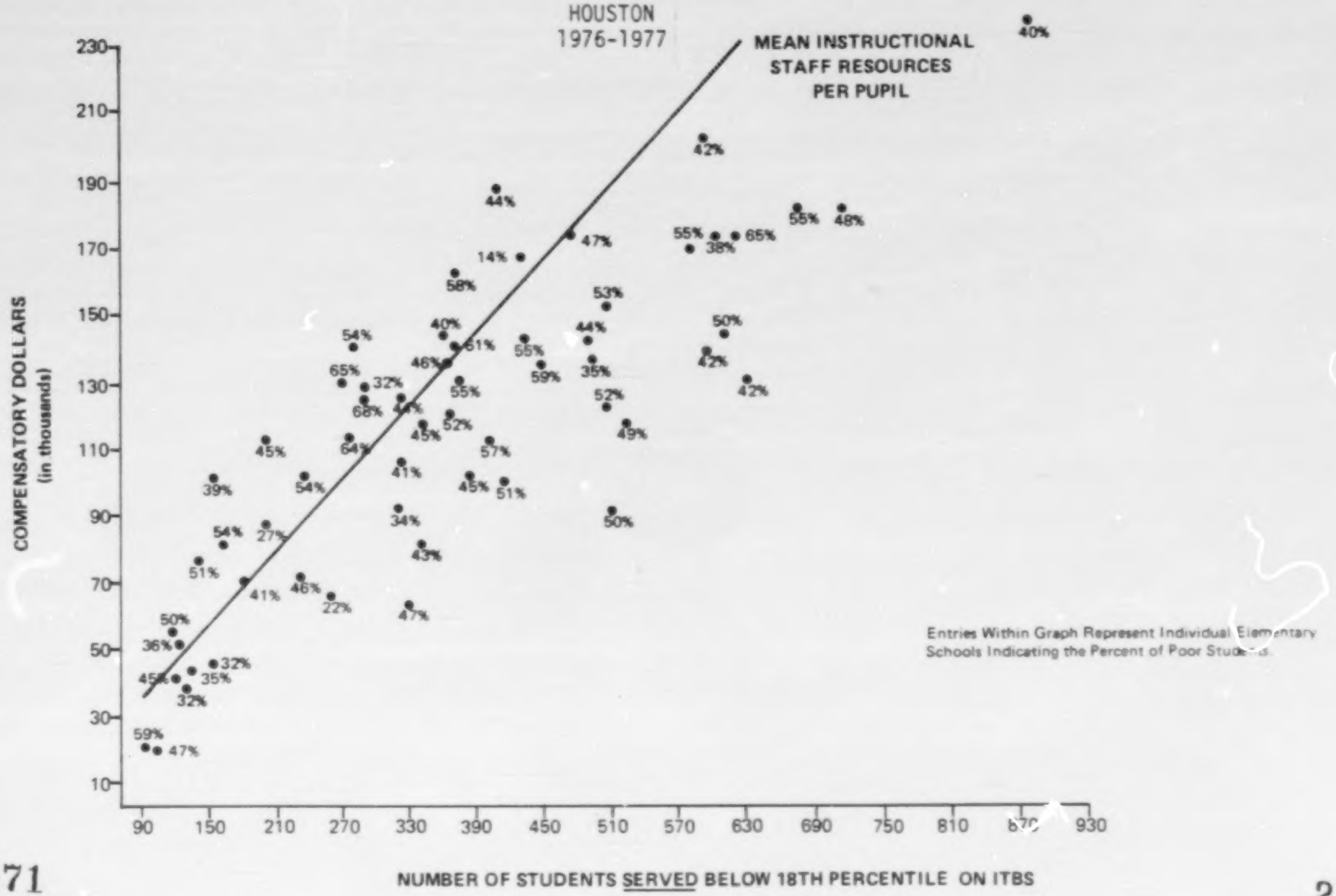
HOUSTON
1976-1977



Entries Within Graph Represent Individual Elementary Schools Indicating the Percent of Poor Students.

Figure 2.8.2

NIE Title I Demonstration Compensatory Education Program-Proportional Distribution of Title I Instructional Resources Among Elementary Schools

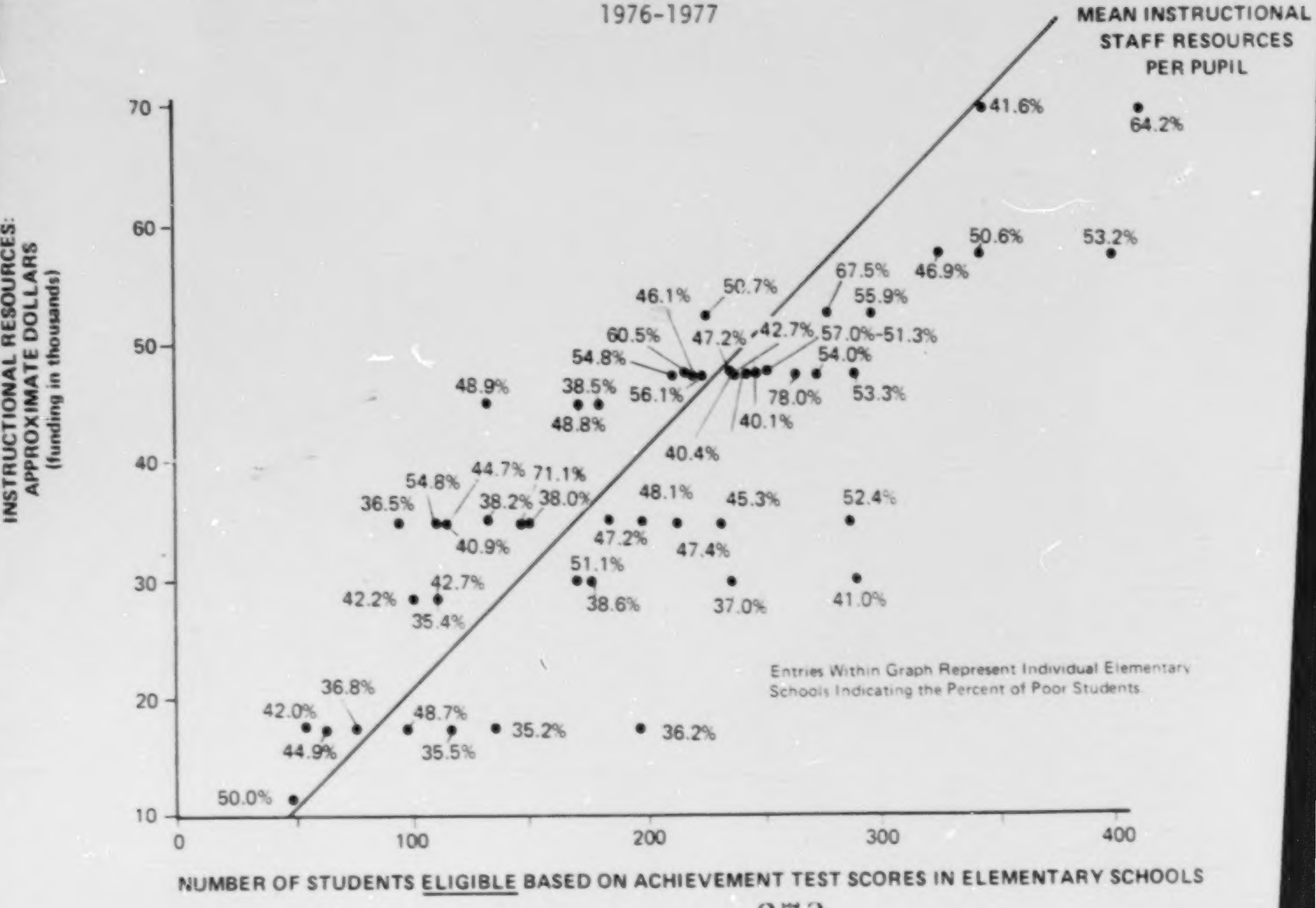


Entries Within Graph Represent Individual Elementary Schools Indicating the Percent of Poor Students.

Figure 2.8.3

NIE Title I Demonstration Compensatory Education Program-Proportional Distribution of Title I Instructional Resources Among Elementary Schools

CHARLOTTE
1976-1977

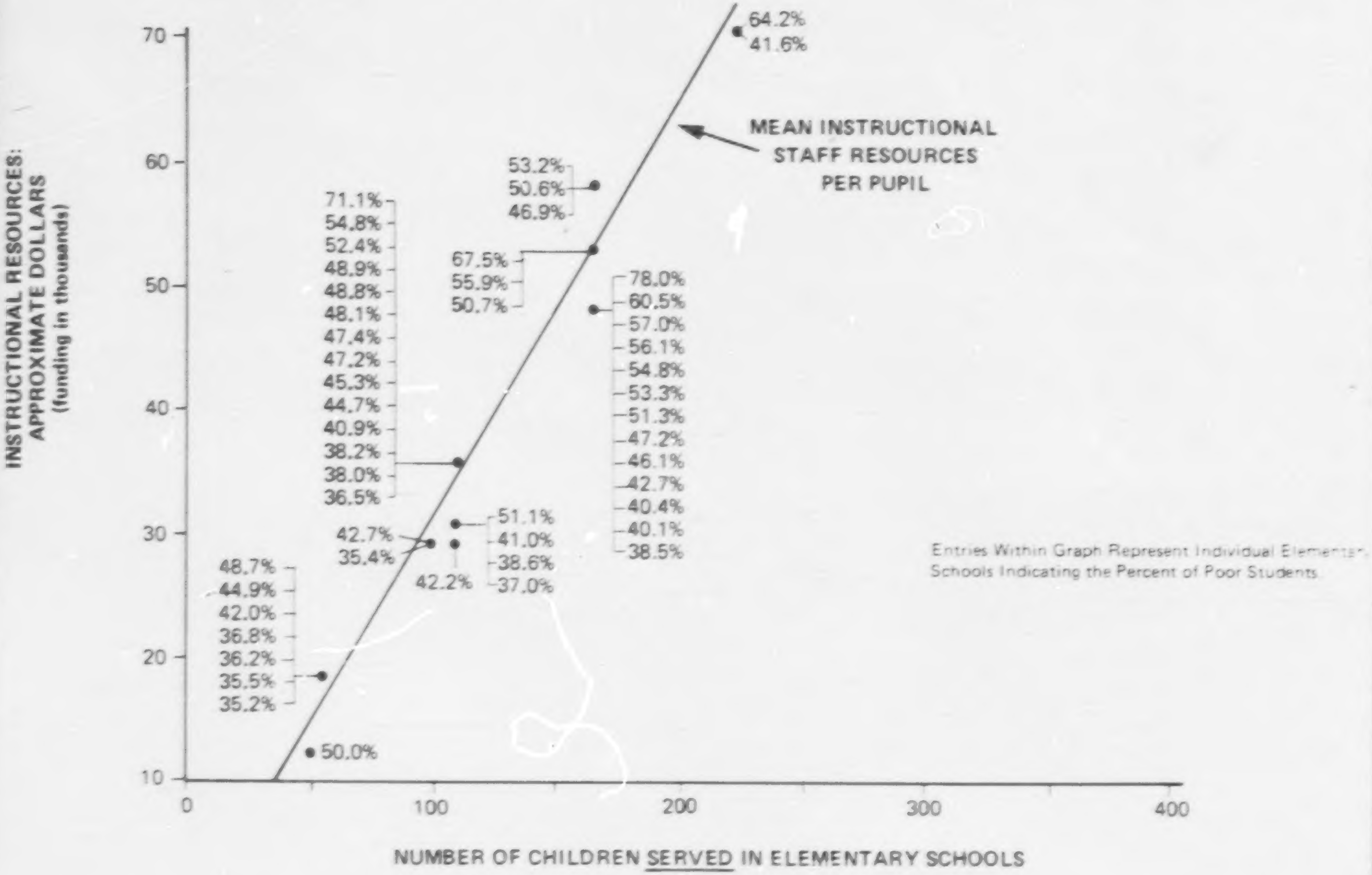


Entries Within Graph Represent Individual Elementary Schools Indicating the Percent of Poor Students

Figure 2.8.4

NIE Title I Demonstration Compensatory Education Program-Proportional Distribution of Title I Instructional Resources Among Elementary Schools

CHARLOTTE
1976-1977

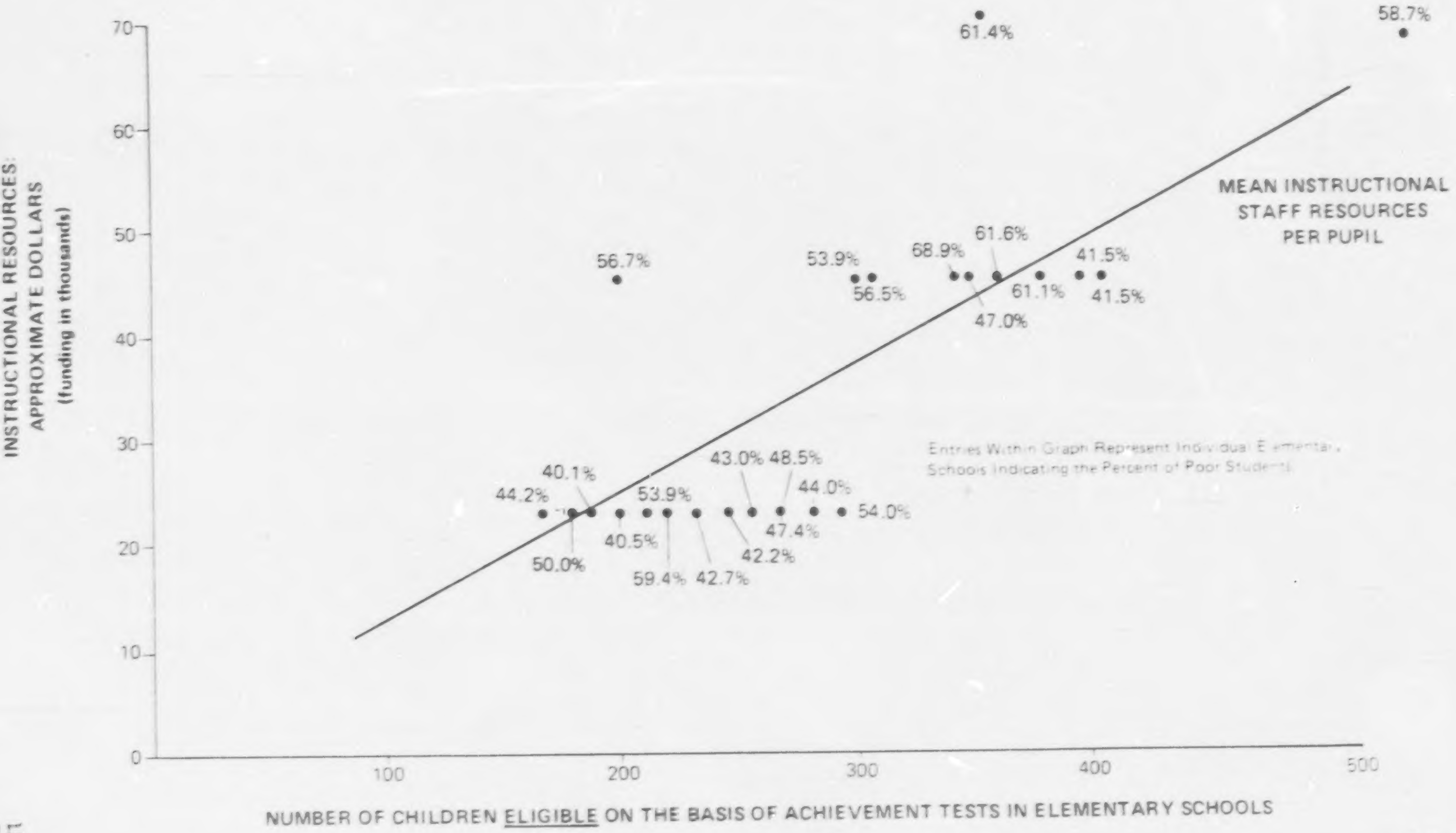


Entries Within Graph Represent Individual Elementary Schools Indicating the Percent of Poor Students

Figure 2.8.5

NIE Title I Demonstration Compensatory Education Program-Proportional Distribution of Title I Instructional Resources Among Elementary Schools

WINSTON-SALEM
1976-1977

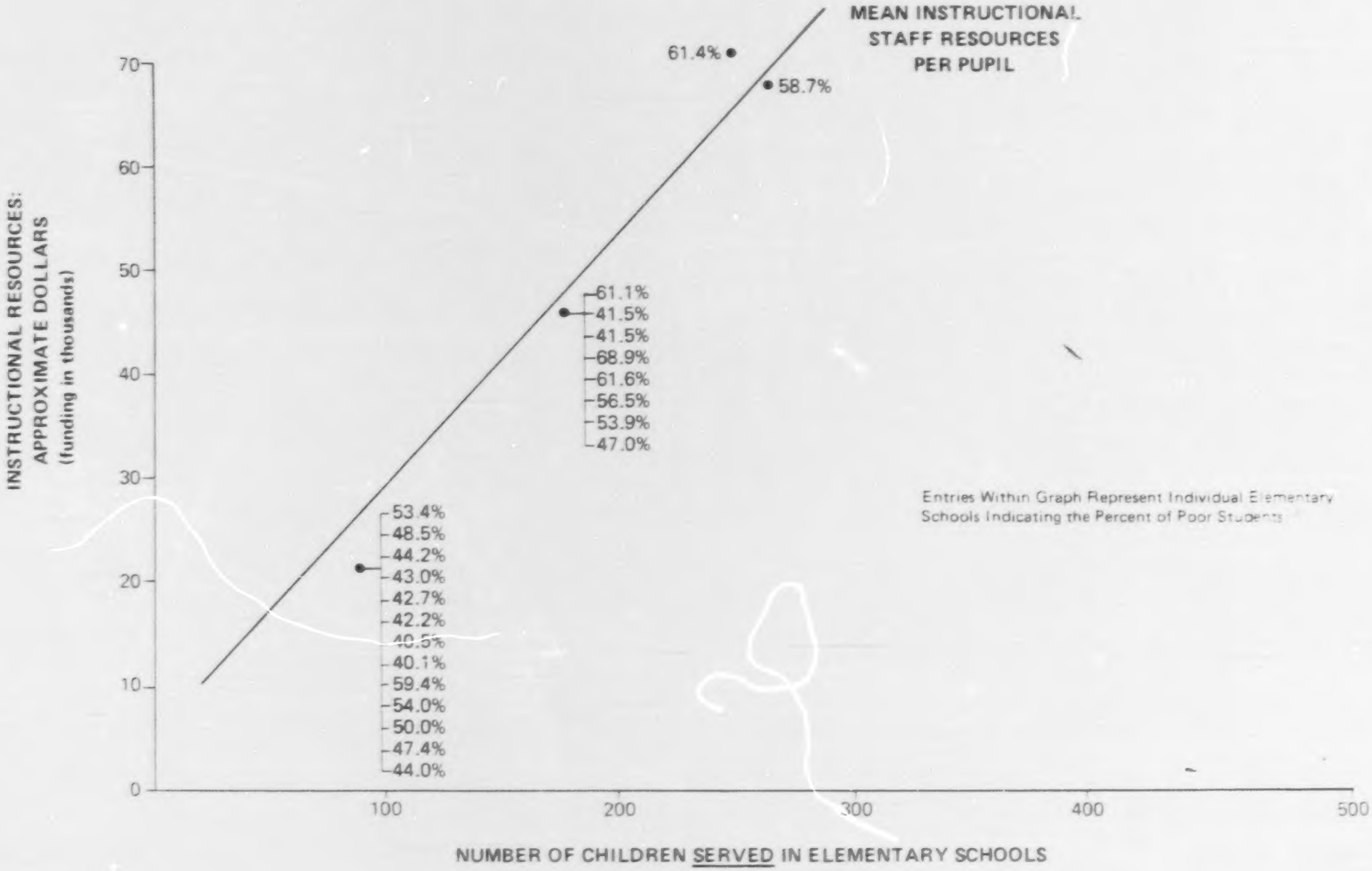


Entries Within Graph Represent Individual Elementary Schools Indicating the Percent of Poor Students

Figure 2.8.6

NIE Title I Demonstration Compensatory Education Program-Proportional Distribution of Title I Instructional Resources Among Elementary Schools

WINSTON-SALEM
1976-1977



Entries Within Graph Represent Individual Elementary Schools Indicating the Percent of Poor Students

Figure 2.8.7

NIE Title I Demonstration Compensatory Education Program-Proportional Distribution of Title I Instructional Resources Among Elementary Schools

RACINE
1976-1977

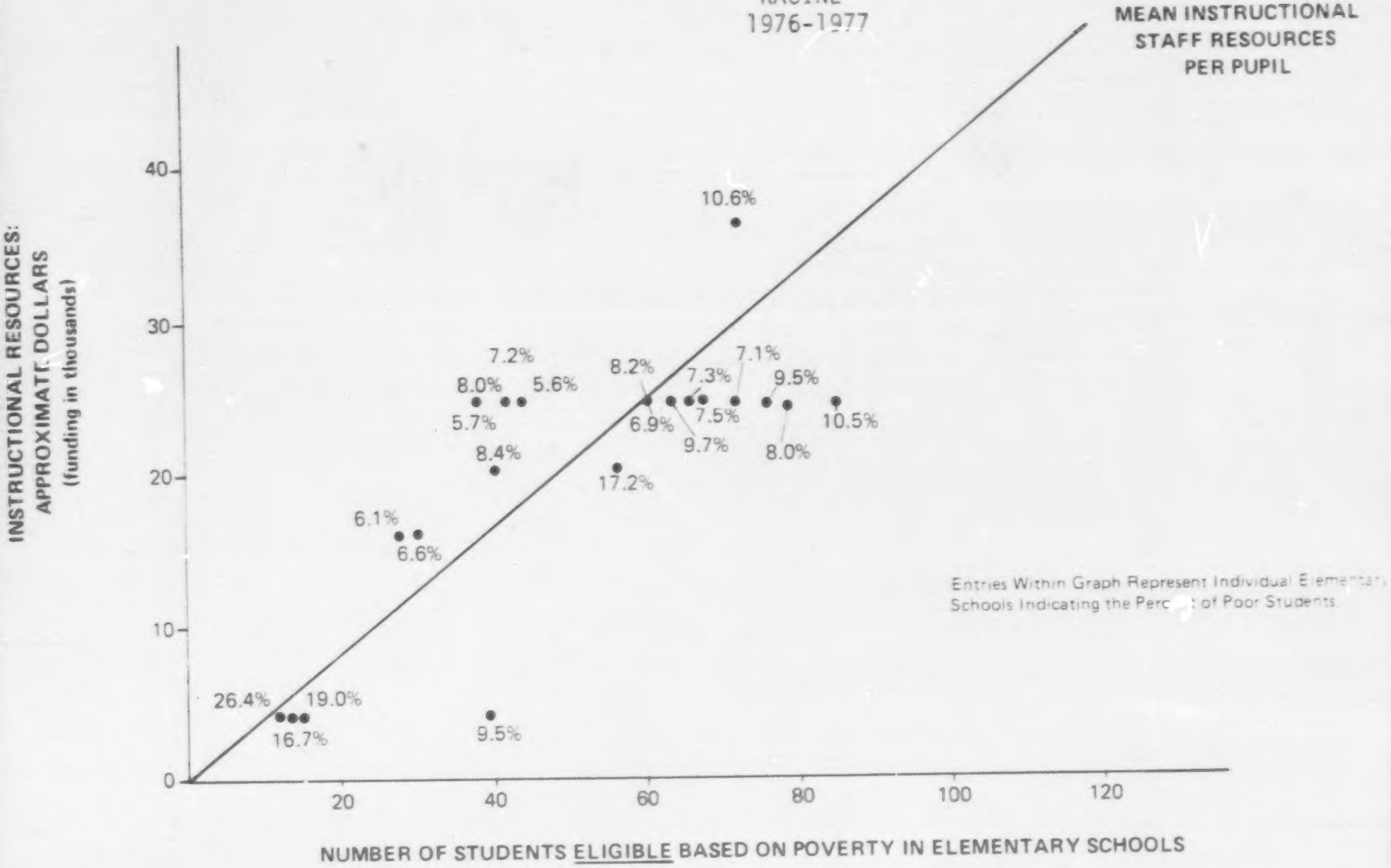
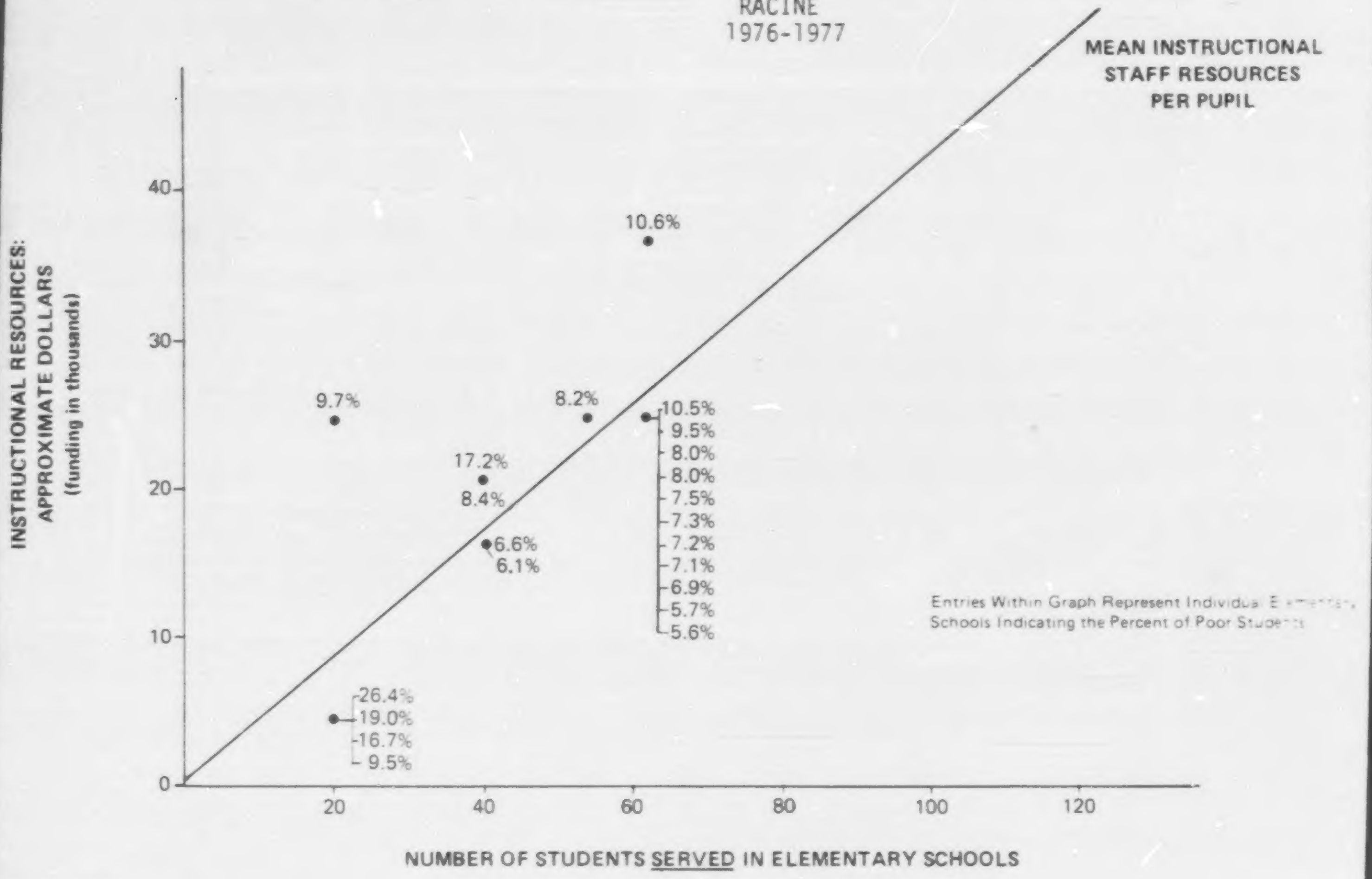


Figure 2.8.8

NIE Title I Demonstration Compensatory Education Program-Proportional Distribution of Title I Instructional Resources Among Elementary Schools

RACINE
1976-1977



Entries Within Graph Represent Individual Elementary Schools Indicating the Percent of Poor Students

Comparisons of 1976-77 allocation policy results to similar results for 1975-76,* however, illustrate the tightening of decision rules for the proportional distribution of resources to schools. The comparisons also illustrate the higher correlations resulting in 1976-77.

Student Eligibility

Student eligibility for Title I services (program eligibility) was always based on educational need. The services provided by Title I are intended to raise a child's attainment to that appropriate for children of his/her age. The Demonstration districts used various means for establishing such need in 1975-76--standardized tests, staff judgment, and criterion-referenced tests primarily--and various cutoffs for eligibility --ranging from the 25th percentile to the 50th percentile based on either local or national norms.

In 1976-77 many of the districts will not be changing their student eligibility procedures. The reasons for this are two-fold. In part it is a function of the decision made by NIE not to administer a uniform, standardized test across all Demonstration districts; this is in fact a demonstration of the districts' ability to allocate by achievement on the basis of tests already used in the district.

In large part, the lack of change in these districts' student eligibility criteria in 1976-77 is a function of the nature of program eligibility criteria. Such criteria tend to be used by these districts only to establish maximum levels of student achievement above which students will not be served. The district's needs assessment determines the pool of eligible students and the nature and scope of their needs. Beyond that, the actual pre-service achievement level of the students selected depends mostly on student targeting procedures. Thus, student eligibility requirements serve as a general, and consistent, constraint under current procedures and--based on more consistent procedures--will serve as a constraint under the new alternatives.

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*These plots are shown for Charlotte in Figures 2.8.3 and 2.8.4 which can be compared to Figures 2.6.6 and 2.6.7. They are shown for Winston-Salem in Figures 2.8.5 and 2.8.6 which can be compared to Figures 2.6.10 and 2.6.11. Racine is illustrated in Figures 2.8.7 and 2.8.8 which can be compared to Figures 2.6.12 and 2.6.13.

Student Targeting

The basic rule of student targeting in Title I has come to be known over the years as "worst first." In principle this means that students within the eligible pool will be served in priority order by decreasing severity of need; those closest to eligibility cut-off may not receive any services, depending on the amount of resources available.

In practice, the actual pre-service achievement level may vary across districts, and across schools within a district. In the first case, many districts rely heavily on teachers' judgment, particularly to select students in grades in which the district does not test. In this case, the use of number of percent poor, rather than the number of educationally needy, to distribute resources to schools results in an uneven distribution across the district of resources per educationally needy child. This is due to the imperfect correlation between poverty and achievement at the individual child level. A school with a large concentration of poor students may receive sufficient resources to serve all students up to the 50th percentile, while a school with fewer poor students (and thus fewer resources) may only be able to serve students up to the 35th percentile.

The changes in student targeting being made by these districts are likely to have two effects on the pre-service achievement level of the students. A general change that is likely to occur is the more even distribution of pre-service achievement levels for targeted students across schools within each district, as districts move to the distribution of resources to schools on the basis of achievement rather than of poverty.

Another change will occur as a result of deconcentration decisions which result in more new schools than new students, and therefore serving fewer students per school than last year. Serving fewer students per school, if they are served in order of severity of need, has the likely consequence of lowering the average pre-service achievement level of the student served.

A lower achieving group could be served in 1976-77 than was served in 1975-76, with possible consequences for the districts' ability to successfully raise post-service achievement levels. Whether a low pre-service level occurs will depend on, among other things, the distribution of low-achieving students across the district, and the accuracy of local targeting procedures in identifying those in greatest need. The actual pre-service achievement level in each district in 1976-77 will be compared to that in 1975-76 for a sample of students in order to estimate the strength of this effect.

By the same logic and given the high negative correlation between poverty and achievement level, the students served may be poorer than those previously served. This comparison will also be made.

Thus, in conclusion, the two most important types of change being instituted by the LEAs are at the school eligibility stage of the allocation process, and at the stage of proportionally distributing services to schools and students. These types of changes are likely to result in additional changes in each of the other stages of the allocation process.

2.9 Magnitude of Change

This section describes the magnitude of change being attempted in the 13 Demonstration LEAs, i.e., the numerical and proportional changes in schools and students served by Title I. The changes described are largely a result of the types of policy choices made by the 13 LEAs and described in Section 2.8. Thus, the presentation of data and our discussion of those data are organized according to the most important type of change--school eligibility policy. Using this typology, the magnitude of change in services to schools is described. This is followed by a discussion of the magnitude of change in service to students.

All districts are serving more schools in 1976-77 than were served in 1975-76; this is particularly true in the seven districts which are providing services in all schools within given grade spans, and in Winston-Salem, North Carolina. Table 2.9.1 presents the increase in percentage of total elementary schools served in each of the districts. (The overall change may be more or less for districts continuing to serve other grades.)

The increase in number of schools served generally results in decreased per-school expenditures.* However, this decrease is not constant across all schools within most districts. Section 2.8 indicated that in 1975-76 many of these districts allocated resources to schools based on the number or percentage of low-income children in the school, and that the resources per low-achieving student were apparently unequal across schools. In 1976-77, in keeping with their desire to serve low-achieving students directly, 12 of the 13 districts

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*Some districts have lessened the impact of increased numbers of schools served in one grade span by removing services from schools in other grade spans--e.g., from middle and secondary schools. One district (Winston-Salem) will actually increase both the number of schools served and the per-school expenditures by using their carryover and almost all of their 1976-77 Title I allocation. Both of these changes could not be continued into the 1977-78 school year.

TABLE 2.9.1

Total Number of Public Elementary Schools, Percentage of Total Served in 1975-1976 and in 1976-1977, and the Difference in Percentages Resulting from the Policy Changes Initiated by 13 LEAs Participating in the NIE ESEA Title I Demonstration

LEAs GROUPED BY SCHOOL ELIGIBILITY POLICY OPTION		1975-1976		1976-1977		CHANGE
POLICY OPTION	LEA	TOTAL NUMBER ELEMENTARIES	PERCENTAGE SERVED BY TITLE I	TOTAL NUMBER ELEMENTARIES	PERCENTAGE SERVED BY TITLE I	INCREASE IN PERCENTAGE OF SCHOOL SERVED
DIRECT STUDENT ALLOCATION						
	Adams County	16	19%	16	100%	81%
	Alum Rock	19	47%	18*	100%	53%
	Harrison County	30	83%	30	100%	17%
	Mesa	25	52%	25	100%	48%
	Newport	9	33%	9	100%	67%
	Santa Fe	16	69%	16	100%	31%
	Racine	33	42%	33**	88%	46%
ACHIEVEMENT SUBSTITUTED FOR POVERTY						
	Charlotte	73	67%	75	76%	9%
	Winston-Salem	37	35%	38	63%	28%
POVERTY PLUS ACHIEVEMENT						
	Boston	117	56%	109	69%	13%
	Houston	169	32%	169	37%	5%
POVERTY						
	Berkeley County	13	77%	14	79%	2%
	Yonkers	31	29%	25	36%	7%

* Changes in total number of elementary schools should be noted. These are due to school closings or openings.

** Four of the 33 eligible schools are being served with state compensatory monies rather than Title I monies. The decision as to which schools were to receive Title I was essentially a "direct LEA to student" decision. In addition, current plans call for serving all schools in the district with Title I monies in 1976-1977 when state funds are not available.

proposed to allocate resources to schools based on numbers of low-achieving students in each school. The precision of this distribution varies by district, but has the general effect of equalizing resources per low-achieving student across schools within the district.

Table 2.9.1 shows the coverage of Title I resources by displaying the numbers of elementary schools in the district and the percentage of them served by Title I for each year in the first four columns. The fifth column indicates the difference between the percent served in 1976-77 and 1975-76.

There are two important dimensions to the magnitude of change in the number of schools served by Title I. The first dimension is the degree of departure from previous service--the extent to which LEAs serve more schools in 1976-77 than in 1975-76. The second dimension is the degree to which the LEAs extend services to all schools not served in 1975-76--what we refer to as the degree of saturation.

To determine the degree of departure we compute the ratio of the percentage of schools served under implementation to the percentage of schools served in 1975-76. We would thus be measuring degree of departure from pre-Demonstration program efforts. The calculation of degree of saturation involves constructing a variable representing the ratio of the proportion of new schools added under implementation to the proportion of all schools not served by Title I in 1975-76. We would thus be measuring impact of the Demonstration as a ratio of proportions: actual impact to possible impact. We would expect each of these variables to be correlated with other characteristics and with various outcomes of the Demonstration in very different ways.

Table 2.9.2 illustrates both of these approaches to measuring the magnitude of change. Columns (1), (2), and (3) indicate the proportions of schools served in each year and the difference between the two proportions. Column (4) indicates the degree of departure from the schools served in 1975-76.

TABLE 2.9.2

PERCENTAGE CHANGE IN SCHOOLS SERVED INDICATING DEGREE OF DEPARTURE FROM 1975-76 TITLE I SERVICE AND DEGREE OF SATURATION IN THE 13 LEAs PARTICIPATING IN NIE ESEA TITLE I DEMONSTRATION

LEAs GROUPED BY SCHOOL ELIGIBILITY POLICY OPTION POLICY OPTION	 LEA	1975-76 PERCENT OF PUBLIC ELEMENTARY SCHOOLS SERVED (1)	1976-77 PERCENT OF PUBLIC ELEMENTARY SCHOOLS SERVED (2)	CHANGE IN PERCENT 1975-76 TO 1976-77 [(2)-(1)] (3)	DEGREE OF DEPARTURE FROM 1975-76 TITLE I SERVICE [(3)/(1)] (4)	DEGREE OF SATURATION FROM 1975-76 TO 1976-77 [(3)/(100-(1))] (5)
DIRECT STUDENT ALLOCATION						
	Adams County #12	19%	100%	81%	426%	100%
	Alum Rock	47%	100%	53%	113%	100%
	Harrison County	83%	100%	17%	20%	100%
	Mesa	52%	100%	48%	92%	100%
	Newport	33%	100%	67%	203%	100%
	Santa Fe	69%	100%	31%	45%	100%
	Racine	42%	88%	46%	106%	79%
RANKING BY ACHIEVEMENT						
	Charlotte	67%	76%	9%	13%	27%
	Winston-Salem	35%	63%	28%	80%	43%
RANKING BY ACHIEVEMENT PLUS POVERTY						
	Boston	56%	69%	13%	23%	30%
	Houston	32%	37%	5%	16%	7%
RANKING BY POVERTY						
	Berkeley County	77%	79%	2%	3%	9%
	Yonkers	29%	36%	7%	24%	10%

Column (5) indicates the degree of saturation in 1976-77 of the schools not served in 1976-77.*

Both the degree of departure and the degree of saturation are largest among the group of seven LEAs which are instituting a direct LEA-to-student allocation policy. The degree of departure is greater than 100% for four of these seven LEAs. The three exceptions are Harrison County, Mesa, and Santa Fe. The degree of saturation is 100% in six of seven cases and is due to the decision to simply serve all schools under this policy option.

Among the LEAs selecting other policy options, Winston-Salem is instituting the largest departure from 1975-76 service and the largest saturation of possible schools. Houston, Berkeley County, and Yonkers are instituting relatively small changes for each of these two dimensions of magnitude of change. Charlotte is instituting a relatively small magnitude of departure, but a relatively large increase in saturation. This is explained by the fact that saturation was already high in Charlotte.

It is true that these two variables should, by definition, be positively correlated with each other. If the positive correlation is very high, then they would just be measuring the same thing. Since the correlation is only moderate (.55), we want to devise an analytic method (or methods) which permits us to determine whether or not these two aspects are correlated with other aspects of the Demonstration independently, or jointly, or in some interactive fashion. This is discussed in Section 5.0.

We turn now to student-level changes. Because adequate data do not exist for defining all eligible students in several of the LEAs, particularly for 1975-76, we can address these changes only in terms of the degree of departure from the number of students served in 1975-76.

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*The degree of departure and degree of saturation figures for Charlotte and Winston-Salem are somewhat depressed by these calculations, since, in addition to serving a greater number of schools, they also eliminated schools which received Title I in 1975-76.

Table 2.9.3 shows the number of students served in 1975-76 in Column (1), the number served in 1976-77 in Column (2), and the proportional change in Column (3). Again, the LEAs changing policy to direct LEA-to-student allocation are instituting the largest magnitude of change. The major exception is Mesa, Arizona, where the number of students served is actually declining. The other LEA where the number of students served is declining is Boston. Berkeley County and Winston-Salem are also among the LEAs with the largest magnitude of change--92% in Berkeley County, and 83% in Winston-Salem.

Having shown the degree of departure in schools and students served separately, it is helpful to now examine these changes in relation to each other. This is done in Figure 2.9.1. The 13 LEAs are plotted on the two measures of degree of departure: degree of departure in schools served is on the vertical axis (Column 4 of Table 2.9.2), and degree of departure in students served is plotted on the horizontal axis (Column 3 of Table 2.9.3).

Generally, the two changes are correlated, as indicated by the clustering of LEAs around the ascending slope line. All LEAs except Boston and Yonkers are deconcentrating or dispersing services across both schools and students. LEAs to the right of the slope line are deconcentrating more among students than among schools. LEAs to the left of the slope line are deconcentrating more among schools than among students. An implication of the differences between LEAs in these two dimensions of change in concentration is that the change in students served per school will vary greatly among LEAs.

The fact that this change does vary among LEAs is illustrated in Table 2.9.4, which describes the probable changes in numbers of public elementary students served in each of the Demonstration districts. It should be noted that numbers served in 1975-76 are based on end-of-year figures of actual students

TABLE 2.9.3

PROPORTIONAL MAGNITUDE OF CHANGE IN STUDENTS SERVED FOR 13 LEAs PARTICIPATING IN NIE ESEA TITLE I DEMONSTRATION

LEAs GROUPED BY SCHOOL ELIGIBILITY POLICY OPTION		NUMBER OF PUBLIC ELEMENTARY STUDENTS SERVED IN 1975-76 (1)	NUMBER PUBLIC ELEMENTARY STUDENTS SERVED IN 1976-77 (2)	PROPORTIONAL CHANGE ((2)-(1))/(1)
POLICY OPTION	LEA			
DIRECT STUDENT ALLOCATION				
	Adams County #12	312	693	122%
	Alum Rock	3,932	9,224	135%
	Harrison County	1,129	2,128	88%
	Mesa	2,494*	1,532*	-39%
	Newport	175	445	154%
	Santa Fe	735	1,285	75%
	Racine	500	1,290	158%
RANKING BY ACHIEVEMENT				
	Charlotte	6,440*	6,827*	6%
	Winston-Salem	1,812	3,310	83%
RANKING BY ACHIEVEMENT PLUS POVERTY				
	Boston	10,130	9,378	- 7%
	Houston	19,518	23,197	19%
RANKING BY POVERTY				
	Berkeley County	630	1,210	92%
	Yonkers	2,502*	4,044*	62%

*Duplicated Count (i.e., children may be served in more than one program component).

Figure 2.9.1

Proportional Change in Schools and Students Served by Title I in 13 LEAs Participating in NIE ESEA Title I Demonstration

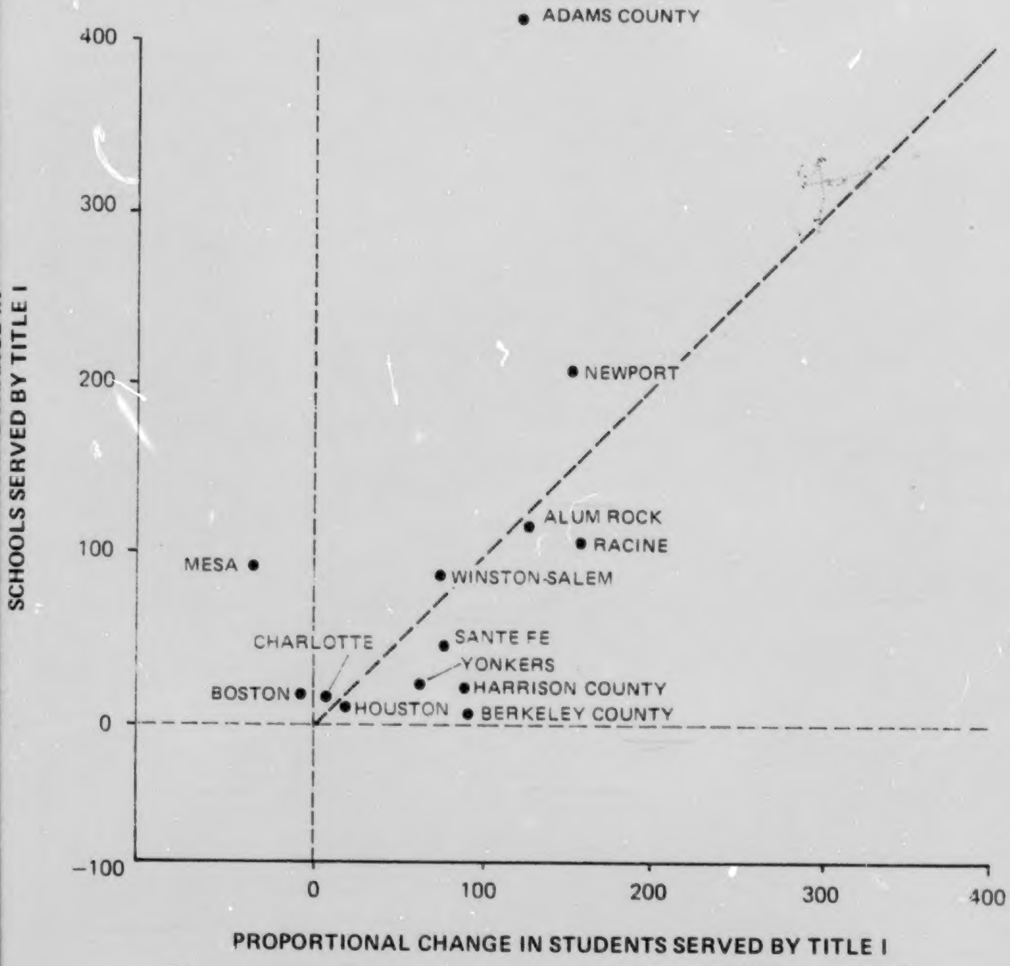


TABLE 2.9.4

Changes in Average Numbers of Public Elementary School Students Served by Schools Resulting from the Policy Changes Initiated by 13 LEAs Participating in the NIE ESEA Title I Demonstration

LEAs GROUPED BY SCHOOL ELIGIBILITY POLICY OPTION POLICY OPTION LEA	1975-1976			1976-1977			CHANGE IN AVERAGE NUMBER STUDENTS SERVED BY SCHOOL
	NUMBER ELEMENTARY STUDENTS SERVED	NUMBER ELEMENTARY SCHOOLS SERVED	AVERAGE NUMBER STUDENTS SERVED BY SCHOOL	NUMBER ELEMENTARY STUDENTS SERVED	NUMBER ELEMENTARY SCHOOLS SERVED	AVERAGE NUMBER STUDENTS SERVED BY SCHOOL	
DIRECT STUDENT ALLOCATION							
Adams County	312*	3	104.00	693	16	43.31	- 60.69
Alum Rock	3,932	9	397.88	9,224	18	512.44	+114.50
Harrison Co.	1,129	25	45.16	2,128	30	70.93	+ 25.77
Mesa	2,494**	13	191.85	1,532**	25	61.28	-130.57
Newport	175	3	58.33	445	9	49.44	- 8.89
Santa Fe	735	11	66.82	1,285	16	80.31	+ 13.49
Racine	500	14	35.71	1,290	29	44.48	+ 8.77
ACHIEVEMENT SUBSTITUTED FOR POVERTY							
Charlotte	6,440**	49	131.42	6,827**	57	119.77	- 11.64
Winston-Salem	1,812	13	139.38	3,310	24	137.92	- 1.46
POVERTY PLUS ACHIEVEMENT							
Boston	10,130	66	153.48	9,378	75	125.04	- 28.44
Houston	19,518	54	361.44	23,197	63	368.21	+ 6.77
POVERTY							
Berkeley Co.	630	10	63.00	1,210	11	110.00	+ 47.00
Yonkers	2,502**	9	278.00	4,355 **	9	483.88	+205.88

*This represents the number of FTE students served across all grade levels. District was unable to supply FTE numbers served for elementary only.

**Duplicated count (i.e., children may be served in more than one program component).

served as given by district administrators, while numbers to be served in 1976-77 are projected estimates given by the same administrators. Actual changes in numbers served in 1976-77 will not be known until the end of this school year.

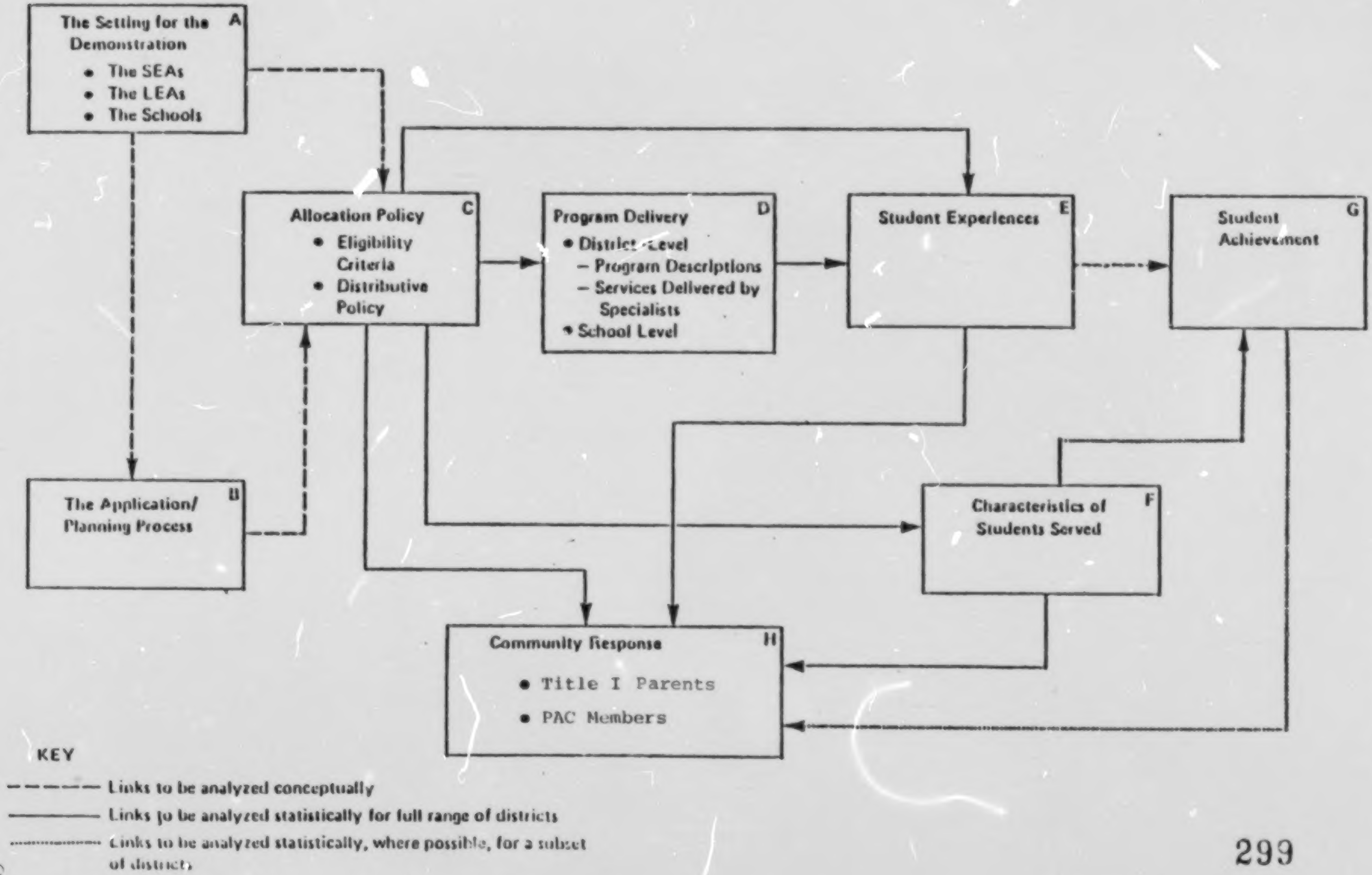
In some districts, the increase in number of schools served is matched by an increase in the number of students receiving services, so that approximately the same number of students per school will be served. This has the effect of essentially maintaining the previous achievement level cutoff for students entering the program, but results in lower per-pupil expenditures. Other districts have decided not to decrease the per-pupil expenditure substantially, but rather to serve fewer pupils per school. This has some interesting logical consequences. Since most districts are attempting to serve the lowest achieving children first, serving fewer children per school may have the effect of lowering the average pre-service achievement level of the students served. By the same logic, if there is a strong correlation between low achievement and poverty, the students served may be poorer than those previously served. Whether these effects occur will depend upon the correlation of poverty and achievement (calculated at the student level), the distribution of low-achieving students across the district, and the ability of the district to identify and serve the lowest achieving students.

One other point should be made here. The per-pupil expenditure in each of these districts is as much a function of the size of the Title I grant to the district (described in Section 2.5) as it is of district decisions about allocation within the district. As has been noted, the grant size to the district is not affected by participation in the Demonstration study; that grant size continues to be based on poverty criteria. However, these 13 districts begin with varying amounts of resources to distribute; their grants are not equally proportional to the number of poor students in the district.

Thus, these districts may make similar concentration decisions--for example, decide to serve the same proportion of their low-achieving children--and yet may wind up with widely differing expenditures per served pupil. In large part, though, the changes in dispersion in concentration (and thus change in per-pupil expenditures) are a function of the policy choices made by the 13 LEAs.

CHAPTER 3

STUDY AND SAMPLE DESIGN



The Setting for the Demonstration A
• The SEAs
• The LEAs
• The Schools
The Application/ Planning Process B
Allocation Policy C
• Eligibility Criteria
• Distributive Policy
Program Delivery D
• District Level
– Program Descriptions
– Services Delivered by Specialists
• School Level
Student Experiences E
Characteristics of Students Served F
Student Achievement G
Community Response H
• Title I Parents
• PAC Members
KEY
Links to be analyzed conceptually
Links to be analyzed statistically for full range of districts
Links to be analyzed statistically, where possible, for a subset of districts

3.0 STUDY AND SAMPLE DESIGN*

This chapter outlines the general study design. This design represents our best solutions to the variety of conflicting problems and constraints which have been imposed on this research. The design is one which evolved over the first several months of the project.

Our original design (contained in our proposal) included a panel study of a sample of students plus a subsample of parents of all types of students in order to measure services received. Further, it included measurement of services delivered by classroom teachers as well as reading and mathematics specialists. The latter was not linked to specific class periods in which sampled students were taught; instead it provided estimates based on general typical practice. Finally, our original design was aimed at estimating the effects of districts using both achievement and poverty criteria and distributing instructional services less extensively as well as more extensively.

The design described in this chapter departs from that original design by using grades within schools as the longitudinal unit for analysis rather than a panel of students. New student samples are drawn each year. Teachers are asked to fill out questionnaires which describe specific class periods in which sampled students receive instruction. The design is aimed at estimating the effects of substituting achievement criteria for poverty criteria to determine eligibility and of extending services to more schools.

There are two general reasons for the departures from our original design. First, the school districts uniformly proposed the use of achievement criteria of eligibility and extending services to more schools (see Section 2.3) contrary to the assumptions made in our proposal. The second general reason is that the priorities among the research objectives were reorganized in response to requests by the NIE technical staff. (See Appendix A for more complete discussion of this part of the evolution.)

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*Since three LEAs chose not to implement the Demonstration, the design for change analysis presented herein includes thirteen LEAs.

In brief, the revised design is one in which schools are sampled within three strata:

1. Schools which currently receive Title I (1975-76) and which are expected to receive Title I during the implementation years of the Demonstration (1976-77 and 1977-78);
2. Schools which do not receive Title I, but which are expected to receive it during the implemention years of the Demonstration; and
3. Schools which do not now receive and do not expect to receive Title I during the course of the Demonstration.

With these sampled schools, all third and fourth grade classrooms are included. Students are sampled from within these classrooms. Data is collected on the instructional and other services delivered to these students and received by them. Logs are completed for entire sample days describing the total instruction received during that day. Questionnaires are completed by teachers describing the instruction given during specific class periods. Principals complete questionnaires describing the organization of the school, the services provided, and characteristics of the student population. Parents of students are interviewed.

3.1 Primary Research Questions

The primary research questions to be addressed in the study of Demonstration Compensatory Education Projects are those listed below in order and priority:

1. What changes in Title I allocation policy are made by each of the thirteen Demonstration districts under the waiver of federal regulations?
2. What effects do changes in Title I allocation policy have on the instructional and support services experienced by students of different types within the thirteen Demonstration districts?

3. What effects do changes in Title I allocation policy have on the characteristics of students served by Title I and the other compensatory programs within the thirteen Demonstration districts?
4. What effects do changes in Title I allocation policy have on the organization and administration of compensatory programs and the instructional services delivered within the thirteen Demonstration districts?
5. What is the reaction of parents, professionals, and citizens in general to changes in Title I allocation policy within the thirteen Demonstration districts?
6. What effects do changes in allocation policy have on student achievement within the thirteen Demonstration districts?*
7. What are the costs and/or savings associated with changes in Title I allocation policy? What costs are non-recurring, such as costs associated with planning, and what costs are recurring, such as costs associated with testing and changes in program administration?

In addition to these primary research questions, we will explore several other questions in order to set the context for the Demonstration Study and amplify the questions presented above. These secondary research questions include the following:

1. What are the demographic, bureaucratic, and other characteristics of the states, districts, and schools participating in the Demonstration Study?
2. Are these characteristics associated with the manner in which districts applied or planned for the Demonstration or the allocation policies chosen?

---

*The fact that this question is relatively low on our list does not necessarily reflect its order of importance, but rather the limitations imposed upon our ability to answer it. Since the collection of achievement test data has been prohibited in the Demonstration Study, we must rely upon the achievement test data already collected by the Demonstration districts. Such data is not available from all Demonstration districts, and is variable in its utility.

3. How do the thirteen Demonstration districts plan for the implementation of the Demonstration?

4. Are there characteristics of the planning process which are associated with "successful" Demonstrations? If so, are these manipulable?

5. Are the effects of changes in Title I allocation policy on student experiences direct, or are they a function of changes on program organization and program delivery patterns?

6. Are the effects of changes in Title I allocation policy on parental reaction direct, or are they a function of district or school policies with respect to parental involvement, changes in student experiences, and/or changes in the characteristics of students served.

Finally, a research question which underlies the entire Study is the representativeness of the thirteen Demonstration districts to other Title I districts as a whole and/or to different types of Title I districts within the entire set.

In the remainder of this report, we will present the analytic model which is designed to answer these questions, as well as the research designs, variables, and analytic procedures which will enable us to do so.

3.2 Details of Study Design

3.2.1 The Analytic Model

The basic analytic model underlying the Title I Demonstration Study is presented in Figure 3-0. The model consists of the variable groups and the links between them that will be analyzed in this research.*

Allocation Policy (Group C) is the primary independent variable in the Demonstration Study. Variable groups to the left of Group C represent contextual variables which may

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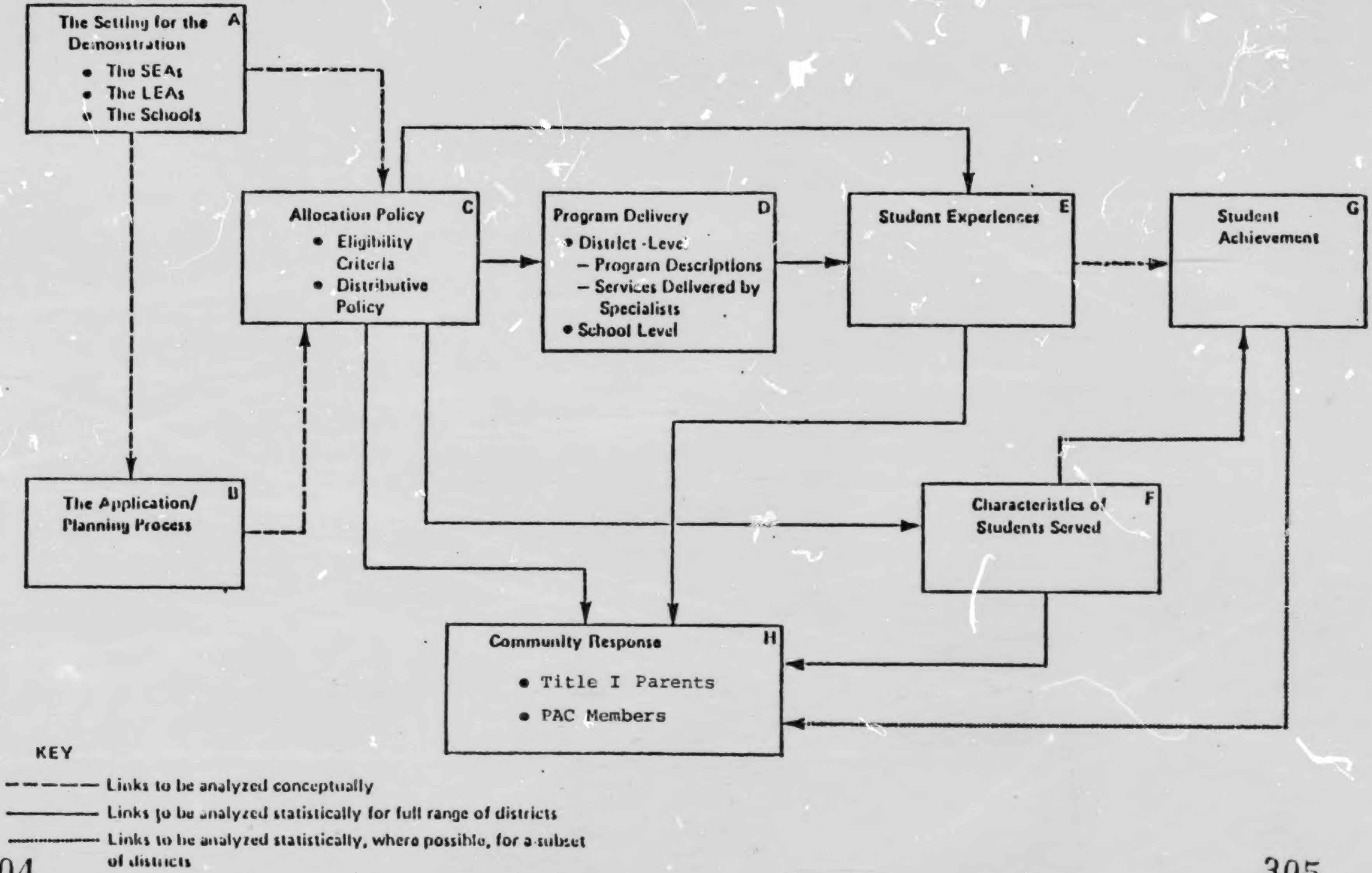
*Chapters 4.0 through 9.0 will describe each of the components of the model in further detail. Chapter 10.0 will present analytic approaches to measuring the relationships among components and Chapter 11.0 will describe approaches to measuring change in these relationships over time.

FIGURE 3-0

THE ANALYTIC MODEL FOR RESEARCH
ON DEMONSTRATION COMPENSATORY EDUCATION PROJECTS


The Setting for the Demonstration
A
• The SEAs
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• The Schools
The Application/ Planning Process
B
Allocation Policy
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• Eligibility Criteria
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Program Delivery
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Links to be analyzed conceptually
Links to be analyzed statistically for full range of districts
Links to be analyzed statistically, where possible, for a subset of districts

influence allocation changes. The dotted lines linking Groups A, B, and C indicate relationships that will be explored conceptually and graphically. Statistical analyses will not include tests of significance for this part of the data.

Variable groups to the right of Group C represent potential outcomes of allocation changes. Arrows on this side of the model represent both direct and indirect links between allocation changes and each of the outcome variables. Solid lines represent relationships which will be explored statistically in our basic research approach. Linkages between student achievement and other variable groups are set off because they do not represent a part of our basic approach. These relationships may be explored for a subsample of Demonstration districts depending on the availability of adequate data for such an analysis.

Contextual Variables

Two groups of contextual variables are displayed in the model: A) the setting for the Demonstration, and B) the history of the planning/application process. Setting (Group A) includes characteristics of the State Education Agencies (SEAs) such as size, location, regulatory functions, and the organization of the Title I office. It also includes demographic and bureaucratic characteristics of the Local Education Agencies (LEAs). Finally, it includes characteristics of the schools in each of the thirteen LEAs, focusing on physical qualities and characteristics of school administrators. Knowledge of the setting enables us to describe the characteristics of the key organizations in the Demonstration, to determine the degree to which the settings of the Title I Demonstration programs are representative of other Title I districts, the degree to which the settings vary, and the degree to which the characteristics of the settings influence allocation policy.

Variable Group B consists of two parts: application and planning. The history of the application process provides information on the selection of Demonstration districts, beginning with the distribution of the Requests for Proposal (RFPs) through the State Education Agencies (SEAs) to the individual school districts, and ending with the final choice of districts by NIE. At each stage, self-selection may have occurred. Documenting the process will provide us with additional information on the representativeness of the Demonstration districts. The planning process also provides a background for the study of allocation changes. Our purpose with respect to this part of the research is to describe the planning process in each district, and the extent to which it varies across districts.

In addition to setting the stage for the Demonstration, contextual variables are of interest because of their potential relationships to one another and to the allocation changes adopted by the LEA. Among the questions implied by the links among these variable groups are the following:

- Is there a relationship between the bureaucratic structure of the school district and the extent of staff/community participation in the planning process? (Link AB)
- Is there a relationship between district size and distributive policy? (Link AC)
- Is there a relationship between SEA regulations and the Demonstration options chosen by the LEAs? (Link AC)
- Does the nature and extent of staff/community participation in the planning process influence allocation policy? Does strong Parent Advisory Committee (PAC) involvement lead to fewer changes? (Link BC)
- Does concurrent desegregation lead to the selection of certain Demonstration options? (Link AC)

Answers to these questions may provide some indication of the kinds of allocation changes which might be made by various types of LEAs if a general waiver were granted, or use of achievement criteria adopted. To the extent that variables are manipulable they also offer insights into the best approach for successful replication of certain Demonstration options. Finally, they enrich our characterization of districts. In Section 2.3 we discussed sorting districts into categories based on allocation strategies alone. More elaborate and policy relevant categories might include:

- Small vs. large districts undergoing 100% deconcentration of schools, and/or
- Districts making allocation changes with or without the support of various interest groups or concerned actors.

Outcomes

On the right hand side of the model are several potential outcomes of changes regarding allocation policy.* Changes in eligibility criteria and/or concentration of services may have an impact on one or more of these variable groups. Each of these has varying degrees of importance for the Demonstration and thus for the ways in which our resources will be organized for the analysis. The clearest and most direct outcomes of allocation changes are likely to occur in the area of program delivery (Group D). Such changes are direct in the sense that they take place almost by definition. Program delivery refers to the content and context of instructional and support services offered by Title I and other compensatory education programs in a district. If districts change the number of students served in a school and/or the number of schools served in the district, they are likely to be using some new operational mechanism for delivering services to different students and/or schools. For example, if a district changes the number of schools served by Title I, it may do one (or more) of several things: (1) add more staff, possibly by borrowing from another program; (2) modify staffing or other resource patterns, e.g., by substituting less costly aides for specialists or materials for staff; or (3) change the ways in which staff are utilized, e.g., as resource persons rather than instructors. If school districts make such changes, it is likely that students will be receiving substantially fewer services or services in increasingly large groups.

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*Note that what is a potential outcome of an allocation change may also be an independent or mediator variable for other outcome variables.

A highly differentiated set of changes is implied in the simple descriptive term "changes in program delivery." We mean goal and policy changes in programs at the district level as well as the organization of programs across the district. We mean the organization of programs within schools. We mean basic strategies developed across the district and within given schools. We mean the actual delivery of instructional services to students. Since program delivery incorporates all of these, our approach is to measure changes at all levels in order to develop a precise and detailed description of the generic outcome "program delivery."

Characteristics of Students Served

The characteristics of the students served under Title I programs comprise another direct link between allocation changes and outcomes (Link CF). If the criteria and procedures for selecting students change, one would expect to find differences in the characteristics of the Title I students selected under each set of criteria and procedures. This apparent tautology can be dispelled. To the extent that eligibility criteria based on poverty identify the same students as criteria based on educational needs, there may be little or no change in the characteristics of students served. To the extent that within-school selection procedures are currently based on achievement criteria, there may be little or no change in the characteristics of students served.

The relationship between allocation changes and student characteristics has great policy relevance. It addresses the question of which constituencies--black or white, rich or poor--gain or lose services under the waiver. For those who argue that Title I is a poverty program designed to provide equitable services to poor schools and students, a radical shift in the characteristics of students served from poor to non-poor may provide strong support for *not* deregulating the program, or for *not* using achievement test scores as the criterion for selecting schools.

Student Experiences

The third outcome represented in the model is Group E: student experiences. Our goal with this outcome is to measure the degree to which instructional services of varying types are experienced by students with varying characteristics. This requires measuring the exposure of students to various services and identifying the different characteristics of these students.

This outcome is both directly and indirectly linked to allocation changes in our model. Obviously, changes in the content and context of instructional services associated with allocation changes will have an indirect effect on the experiences of students (Link DE). Even without concommitant changes in program goals, organization or strategies, however, students may receive different amounts and types of services. This is the case, for example, when the same number of staff attempt to teach more students using the same objectives and the same instructional strategies. Students must experience services that are reduced in time length and/or in adult-child ratio, if not qualitatively different experiences.

Community Response

Community response to Title I in its current form and under the Demonstration will be analyzed in the research because of the interest NIE and Congress have expressed in determining the degree to which programs are accepted and supported by the community. If an allocation alternative and a set of program outcomes are estimated to be cost beneficial according to some objective standard, but are unacceptable to people in the community, then the program may not be an attractive policy. The most crucial segment of the community by which public acceptance of the program may be gauged is comprised of parents of students enrolled in the Title I program. Parents, especially PAC members, are most likely to come in direct contact with school personnel, to obtain from them information about the quality of the school, and to have a direct impact on school operation.

The analytic model also takes into consideration school professionals as another crucial segment of the community. This group is important not only because of their professional responsibilities within the school system, but also because of their activities as members of professional organizations.

Systematic survey data will be collected from parents and professionals to measure community reaction to the Demonstration. The relationship between allocation changes (Link CH), characteristics of students served (Link FH), student experiences (Link EH), district and school level policies, and parental involvement, awareness, and reaction to the Demonstration program (Link DH) will be examined. To assess the reaction of citizens in general, a limited telephone survey will be used.

Student Achievement

The final outcome indicated in the model is student achievement (Group G). The RFP clearly states that we will not administer achievement tests as part of this research. We must, therefore, rely on data available through school district testing programs in order to investigate changes in student achievement. Given the variety of constraints on comparability across districts, including different tests, tests administered at different times of the year, tests administered at different grade levels, and tests administered in different manners, precise statistical analysis of student achievement across all districts cannot be accomplished in this research. To convey this in the analytic model, all achievement links in the basic model are represented by dotted lines. The approach to this part of our research model will be presented in a separate report.

3.2.2 Levels of Generalization

There are two major factors which constrain our ability to generalize the findings of this research to other school districts in the United States. The first is the nature of the selection process for school district inclusion in the Demonstration and the second is the small number of districts in the study. Beyond these considerations, there are other factors which might affect our ability to generalize. These constraints are the subjects addressed in this section.

Selectivity began soon after NIE issued the Request For Proposal (RFP) to State Education Agencies (SEAs) and informed them that only two proposals per state would be accepted from Local Education Agencies (LEAs). Following that, different actors made decisions based on different criteria at different points in time. Some states offered the RFP to limited groups of districts while others distributed the RFP to all districts. In those states where the RFP was distributed selectively, the criteria could have varied from:

- Districts thought capable of administering a "good" Demonstration program, to
- districts which were in trouble and thus in need of help, to
- districts which had particular problems for which the Demonstration seemed a good solution.

In states such as these, districts not initially selected could have varied in requesting the RFP. After the RFP was distributed to districts, states could have varied in the amount of pressure applied on those districts reluctant to respond. The points we want to stress, then, are:

- States applied varying criteria in making decisions to distribute the RFP, encourage submission of proposals, approve proposals, and submit them to NIE;
- districts made decisions to submit proposals on the basis of varying criteria; and finally,
- NIE made decisions to approve proposals, based on known criteria.

All of the above steps in the selection process introduce sources of bias about which our knowledge is limited. We have made efforts to document the selection process in those states and for those districts which were awarded contracts. (See Section 4.2.) We have not been able to do so for those districts whose proposals were not accepted or for those states and/or districts from which no proposals were received. We do know the criteria applied by NIE in the acceptance or rejection of proposals. Thus, we can make some estimates of the direction of selectivity biases and can make some efforts to adjust for these, but our ability to do so is very tightly constrained. The findings of this research, therefore, cannot be generalized to all school districts in the United States, in any given region, or in any given state, or to districts of any particular type without extreme caution and careful qualification.

The second factor which constrains our ability to generalize is the small number of LEAs in the Demonstration. Regardless of the selectivity factors described above, the fact that the study includes thirteen of approximately thirteen hundred LEAs in the United States imposes constraints. We can make some effort to adjust for the indicated biases by examining the differences between the demographic characteristics of the Demonstration districts and the demographic characteristics of all districts. Unfortunately, little in the way of past research indicates how these demographic characteristics are correlated with policy or outcome variables which are of interest here.

Fortunately, District Survey I provides us with an opportunity to make some estimates of biases and to thus make adjustments or assert qualifications with regard to our findings. We will be able to examine demographic characteristics of this national probability sample of school districts. We will have similar, and, in some instances, exactly comparable data with regard to school district programs, school level characteristics, and instructional providers' activities. Thus, we can examine the difference between the thirteen Demonstration districts and the hundred surveyed districts with respect to distribution of these variables. We can also analyze the intercorrelations of these characteristics within the hundred surveyed districts in order to detect possible second level sources of bias. Finally, we can compare these intercorrelations with some intercorrelations in the Demonstration districts in order to properly interpret our findings.

Making comparisons with District Survey I data will provide us with general evidence concerning the non-representativeness of the thirteen Demonstration districts. It probably will provide very little guidance in dealing with the selectivity problem.

The other factors affecting our ability to generalize are those related to response rates.* There could be problems due to low response rates across factors in the sampling design. Probably more important than these are the problems associated with low response rates for particular types of schools, teachers, or students. Most concern at the school level is centered on schools which are not currently receiving Title I services but which are likely to under the Demonstration. These schools have not been informed of their potential opportunity to receive federally supported services and are therefore less likely to cooperate with the research than are current Title I schools. At the teacher and student level, the concern for low response rates reflects the same reasoning. In addition, given unknown distributions of Title I students and non-Title I students across classrooms in Title I schools, we are concerned about response rates in situations where this distribution departs greatly from 50% Title I/50% non-Title I students within most classrooms.

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*See Appendix D for a more detailed and technical discussion of these problems.

Given the above constraints, it is essential to point out that the analytic design and the sampling design outlined in the following section are constructed so that estimates of program distribution across schools can be made by school type--not necessarily for all schools in a district. They are constructed so that estimates of services received by students can be made by types or groups of students. They are constructed so that community reaction can be estimated for Title I parents only. Thus, any generalizations which might be made on the basis of our research findings must be limited to these types and groups.

3.2.3 Sample Design and Implementation

The sampling procedures of this study have been determined primarily by the research questions outlined in Section 3.1, as constrained by the characteristics of the Demonstration districts and the availability of project resources. Several different samples were necessary given the research questions: a principal sample, a specialist sample, a classroom/student sample, and a parent sample. In this section we present first the classroom/student sample design, explaining why it took the form it did, and describing the numbers of children, classroom groups, grades, and schools that we originally planned to include from each of the 13 districts. We then describe the size of the various actual subsamples of the 1975-76 (Year 1) classroom/student sample and discuss the implications for our analyses of varying response rates and local anomalies. Next, we describe the procedures we used for selecting parents, principals and specialists and the response rates for each of these groups. Finally, we discuss some of the ways in which the 1976-77 (Year 2) sample will differ from the one for Year 1.

Before turning to these discussions, two major differences in the Year 1 and Year 2 samples should be noted. First, 3 of the 13 districts which participated in Year 1 of the Demonstration chose not to participate in Year 2. Because our sample was designed to support analyses within individual districts, the fact that these districts chose to withdraw from the Demonstration does not jeopardize the design. Second, several district implementation plans called for Title I allocation changes which we had not specified in our original design. These changes affect the numbers and types of schools.*

In keeping with these realities we decided early to focus the attention of the project on the elementary schools in the Demonstration districts. We reasoned that to try to cover both elementary and secondary schools would have stretched the project's resources unduly, since instrumentation that would be suitable for one level would not work well at the other. In view of the important programmatic differences between elementary and secondary school offerings, moreover, it is doubtful that the most important features at one of these levels could also be identified and measured at the other; without such continuity, the study would have been fragmented into separate elementary and secondary school studies.

For purposes of sampling and generalization, we defined an elmentary school as any school containing grade three or grade four. Despite some non-standard grade structure patterns within the Demonstration school districts, this definition was found to be consistent with existing organizational arrangements.

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*In our original design we specified that there would be three types of schools in districts affected by the Demonstration: Type I, or schools which received Title I in Year 1 and through the Demonstration; Type II, or schools that did not receive Title I in Year 1 but would begin to through the Demonstration; and Type III, schools which never received Title I. The changes alluded to above resulted in ten general types of schools. The meaning of these additional school types will be explained in Section 3.2.3.3.

Within each Demonstration district, some schools were expected to change their Title I status (receiving, or not receiving funds) as a result of the waiver of federal regulations; others were not to change but to continue either receiving or not receiving funds as before. The research questions imply that we must compare the services received by children in three types (strata) of schools within each district:

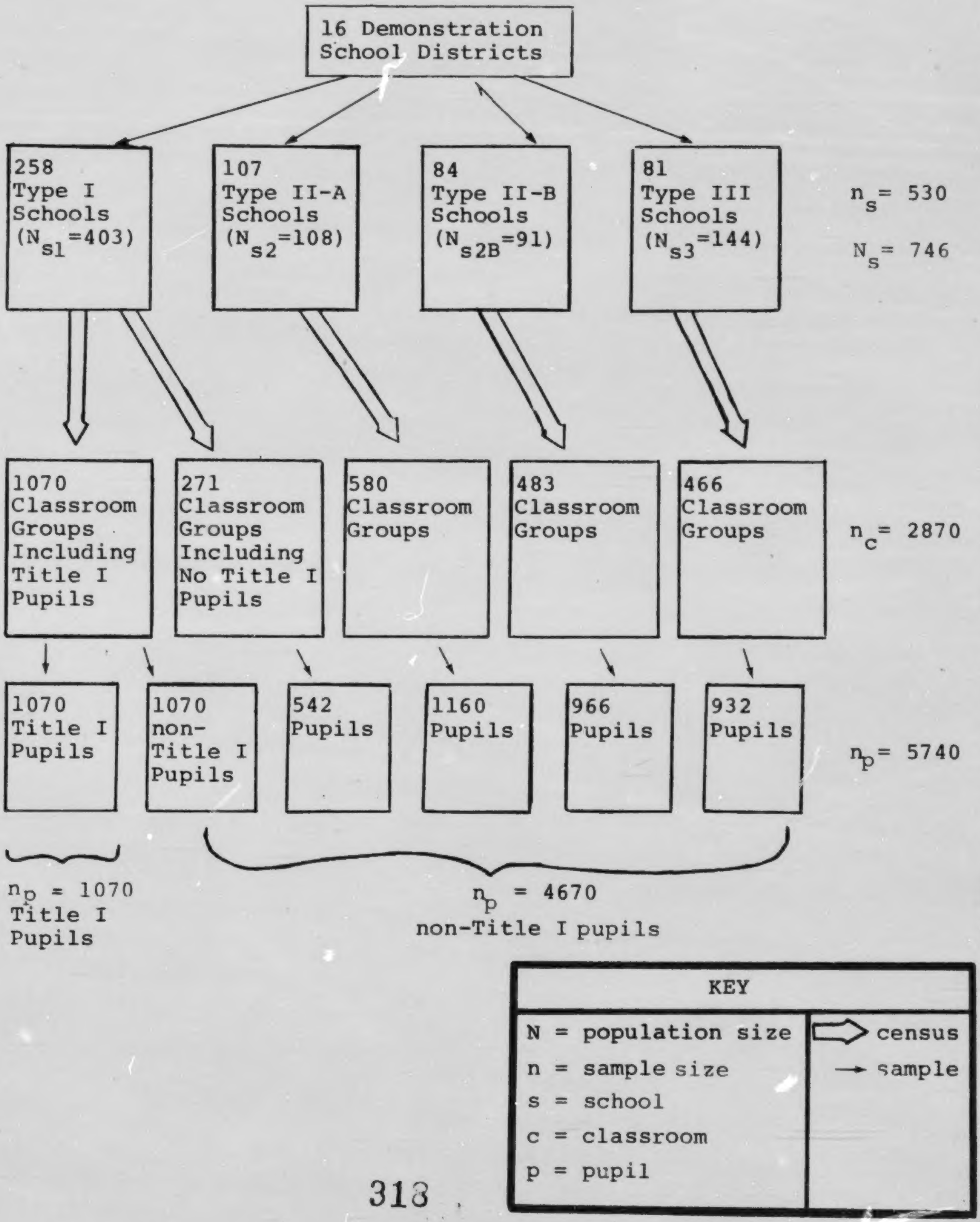
- Type I: Schools that would receive Title I services in 1975-76 and would continue to receive them through the Demonstration;
- Type II: Schools that would not receive Title I services in 1975-76 but which would begin to receive them during the Demonstration; and
- Type III: Schools that would not receive Title I services either before or during the Demonstration.

According to the information we had in January 1976, the 16 Demonstration districts included 746 schools in 1975-76, as Figure 3-1 indicates. Of these schools, we expected 403 to fall into Type I, 108 into Type II, 144 into Type III and 91 into an uncertain category (Type II-B) between Types II and III. These Type II-B schools did not have Title I in 1975-76 but might receive it during the Demonstration period. For sampling purposes, Type II-B was pooled with Type II and over-sampled. Since the direct effects of the Demonstration were to fall on some of these schools, we had to be sure to have adequate information about them.

Study resources did not permit us to gather classroom/student data in all 746 schools, so school sampling was necessary. The basic analysis was intended to compare school types within each district with respect to services and other characteristics of interest. Since no district or school type was a priori more important to the study's purposes than another, we chose to sample schools from types within districts

FIGURE 3-1

DESIGN OF THE YEAR 1 SAMPLE


16 Demonstration School Districts
258 Type I Schools (N s1 =403)
107 Type II-A Schools (N s2 =108)
84 Type II-B Schools (N s2B =91)
81 Type III Schools (N s3 =144)
n s = 530
N s = 746
1070 Classroom Groups Including Title I Pupils
271 Classroom Groups Including No Title I Pupils
580 Classroom Groups
483 Classroom Groups
466 Classroom Groups
n c = 2870
1070 Title I Pupils
1070 non-Title I Pupils
542 Pupils
1160 Pupils
966 Pupils
932 Pupils
n p = 5740
n p = 1070 Title I Pupils
n p = 4670 non-Title I pupils
KEY
N = population size
n = sample size
s = school
c = classroom
p = pupil
census
sample

so as to make as uniform as possible the precisions of all possible school type comparisons.*

If schools were distributed evenly among districts and among types in each district, then equal-sized samples would yield equal precisions of estimate; the same would be true if the school populations were so large that the sample sizes would be neglibible by comparison. In fact, however, districts and types included varying and usually small numbers of schools. We needed, therefore, to sample heavily from rather small groups of schools, and so we followed a more complex rule for deciding how many of each type to take from each district. We sampled n schools at random from among the N schools of a given type in a given district, so that the mean of any characteristic in the sample would be 95% certain to deviate by no more than ± d units from the population mean that it estimates, where, approximately

$$d = 2\sigma\sqrt{\frac{N-n}{nN}},$$

and σ is the population standard deviation of the characteristic (assumed constant across types and districts, in the absence of evidence to the contrary). For purposes of design, we chose to tolerate sampling error such that the half-width d of the 95% confidence interval was one-fourth of a standard deviation of the characteristic in question.** Substituting $d = \frac{\sigma}{4}$ into the expression above, we obtain the formula for the sample size n as a function of the stratum population size N within a district:

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*The precision of a difference estimate is governed by that of the less precise of the two estimates being compared: to know a difference better, one should generally try to strengthen the sample in the less well-sampled stratum rather than in the better sampled one. Pairwise comparisons of uniform precision result most economically when types are sampled for uniform precision of simple estimate of the characteristics being compared.

**This selection of a tolerable width for the confidence interval is arbitrary. We have followed, in this respect, the example of the Follow Through National Evaluation, as reported in Abt Associates Inc., Education as Experimentation: A Planned Variation Model, vol. 3-B, Contract No. OEC-300-75-0134 (Washington, D.C.: U.S. Office of Education, July 1976), p. A-74.

$$n = \frac{64N}{N + 64}$$

School sampling for the first year of the study took place in January, 1976. Table 3-2 shows the number of schools, total and sampled, in each stratum in each district. In general, we treated the rule derived above as a guide to minimum sample size: wherever there seemed to be strong reasons to strengthen a particular subsample, we did so. Nowhere did we draw smaller samples than the rule required.

In particular, we included in the sample all schools that either were to be or might possibly be Type II (i.e., Types II and II-B). Since Type II schools were generally fewer than those in the other types, since these schools would most likely benefit from the Demonstration and were therefore analytically important, and since their transitional status might make them more vulnerable to various problems that might lead to later non-response, we thought it prudent to miss no opportunity to gather data on these schools. In some districts, moreover, the sampling rule implied that we should sample all schools but one or two. In such instances, it would have cost more to implement the necessary exception procedures than simply to gather data in the additional schools. In the interest of maintaining field relationships with school district and school personnel, we decided in such cases to include all schools in the sample.

3.2.3.1 Pupil Selection

To find out how Title I services were distributed within and among the sampled schools, we next considered the necessity of sampling grade levels, classroom groups, and children. Assuming an average of something over two classrooms per grade

TABLE 3-2

ELEMENTARY SCHOOL TOTALS AND SAMPLE SIZES BY DISTRICT AND SCHOOL TYPE

DEMONSTRATION DISTRICT	SCHOOL TYPE							
	TYPE I SCHOOLS WITH TITLE I IN 1975-76 AND 1976-77		TYPE II SCHOOLS WITHOUT TITLE I IN 1975-76, BUT WITH TITLE I IN 1976-77		TYPE III SCHOOLS WITHOUT TITLE I IN 1976 AND 1977		TOTAL ACROSS ALL SCHOOL TYPES	
	TOTAL	SAMPLE	TOTAL	SAMPLE	TOTAL	SAMPLE	TOTAL	SAMPLE
Adams County	3	3	13	13	0	0	16	16
Alum Rock	10	10	9	9	0	0	19	19
Berkeley County	10	10	2	1	1	1	13	12
Boston	66	35	20	20	31	22	117	77
Charlotte	49	28	(24)*	(24)*	0	0	73	52
Freeport	4	4	0	0	0	0	4	4
Harrison County	25	18	5	5	0	0	30	23
Houston	54	30	34 <	34	81	36	169	100
Mesa	13	13	9	9	3	3	25	25
Newport	4	4	6	6	0	0	10	10
Oklahoma City	48	28	6	6	27	18	81	52
Racine	9	9	(19)	(17)	0	0	28	26
Santa Fe	11	11	5	5	0	0	16	16
Wichita	71	35	5	5	1	1	77	41
Winston-Salem	17	11	(20)	(15)	0	0	37	26
Yonkers	9	9	(22)	(22)	0	0	31	31
TOTALS	403	253	199	191	144	81	746	530

*Numbers contained in parentheses are "pools" of Type II and Type II-B from which some subset would become Demonstration Schools. See Text for full explanation.

level per school, each including between 20 and 25 children, we estimated that the 530 sampled schools would include a minimum of 6360 classroom groups in grades one through six, comprising between 127,200 and 159,000 children. Given that project resources would permit gathering the necessary data about services on perhaps 4000 or 5000 children, we followed a strategy which combined sampling with further focusing of the target population.

First, we decided to obtain information on every classroom group in grades three and four in the sampled schools, rather than to sample classrooms in a larger number of grades. This approach guaranteed that we would know about any important variations from classroom to classroom resulting from homogeneous classroom grouping, especially as it might cause Title I children to cluster in some classrooms and not in others. We chose grades three and four for several reasons: We reasoned that contiguous grades could share common instrumentation, whereas non-contiguous grades, such as two and five, might require separate questionnaires. In case of important non-response, moreover, analysis might benefit from a pooling of the two grades, which would make more sense in the case of contiguous grades. Grade three is often thought of as the last of the "lower elementary" years, and grade four as the first of the "upper elementary"; comparisons between the two grades would thus have some conceptual basis. Finally, we though it important to avoid the transitional years of first and sixth grade, when the variables of interest might be particularly subject to fluctuations extraneous to the purposes of the study.

Since we estimated more than 2500 classroom groups in the third and fourth grades of selected schools, we could afford to gather data on only two pupils* in the average classroom. In addition, since teachers were to be the sources of information on services pupils received, this seemed to be the maximum burden for a given teacher to bear along with his/her regular teaching responsibilities.

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*As noted in the following section, Classroom Roster data were gathered for all students in selected classrooms. All other data were collected for two sampled students per classroom.

In order to permit the desired analytic comparisons, we selected at random one Title I child and one non-Title I child from each classroom group that included both types of children. From classes with all or no Title I children, we selected two children at random.

3.2.3.2 Response Rate in the Year 1 Classroom/Student Sample

The sample was designed to be highly insensitive to non-response at various levels. Any failure of districts, schools, or individual respondents to provide the necessary information on time and in a usable form must nevertheless have an effect on the shape and usefulness of the actual set of data on which we shall carry out our analyses. People and organizations being what they are, the actual Year 1 sample differs in several respects from its design.

When the time came to establish the samples of pupils, it appeared that the 530 sampled schools included approximately 3015 third-grade and fourth-grade classroom groups, and so we sent each school the necessary Classroom Roster forms.* For a classroom/student to be included in the Year 1 sample, the roster had to be in our hands by March 31, 1976. By that date, as Table 3-3 shows, 2260 rosters, or 75% of the total, had been returned. The response rates from the districts were mostly 80% or better, ranging from 100% in Berkeley County down to 56% in Boston.

Two students were selected from each of the 2260 classrooms for which we had roster data. These 4520 pupils constituted the final target sample for Year 1 and were therefore the students for whom we collected information about the types of services delivered and received in each of the districts. With With regard to services received, two Classroom Activities Logs (CAL)* observations were planned for each targeted student. Since there were 4520 targeted students, 9040 CAL observations were planned. Table 3-3 shows that 8025 of these were actually completed, for a response rate of 89%. Twelve of the districts returned more than 90% of their CALs, and only Yonkers (at 65%) had a response rate below 80%.

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*As will be explained in a later section (see Section 7.3), the Classroom Roster was administered to regular classroom teachers to obtain sex, free lunch, Title I status, achievement, and other compensatory program status data for all students in the class.

We are concerned with non-response at the classroom level, given the response rates described above. Non-response, which results in reduced cell sizes, threatens the validity and usefulness of our findings in three ways: it increases sampling error;** it may make fine-grained analyses impossible by reducing the sizes of various subsamples; and it introduces an unknown kind and amount of bias into any statistics we may wish to compute from the data. While non-response may shrink some cell sizes to the point of making certain analyses unreliable or even uncomputable, non-response bias poses a far more serious threat. It is also particularly hard to deal with, because one typically knows nothing about a non-respondent except that s/he chose not to respond. In the absence of information about reasons for non-response and their relevance to (or correlation with) the characteristics of interest, one can guide one's judgment about the seriousness of its consequences only by examining its magnitude.

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*The Classroom Activities Log is completed by regular classroom teachers and provides an account of the instruction received by the sampled students on randomly selected observation days.

**The sampling error inflation depends in complicated ways on the sizes of the various subpopulations and subsamples and on the distributions of the characteristics of interest among them. As a rule of thumb, a 25% non-response rate expands the confidence interval of a simple estimate by roughly 15%, for samples from smaller populations such as those with which we are dealing.

TABLE 3-3

OVERALL YEAR 1 RESPONSE RATES FOR THE CLASSROOM/STUDENT SAMPLE

District	Roster (Classroom Groups Data)			CAL (Pupil data)		
	Targeted	Rostered	Participation Rate (%)	Targeted*	Returned	Response Rate (%)
Adams County	94	64	68	256	244	95
Alum Rock	136	88	65	352	338	96
Berkeley County	62	62	100	248	239	96
Boston	348	194	56	776	684	88
Charlotte	360	283	79	1132	1014	90
Freeport	43	41	95	164	161	98
Harrison County	81	75	93	300	297	99
Houston	729	520	71	2080	1718	83
Mesa	142	101	71	404	380	94
Newport	29	24	83	96	95	99
Oklahoma City	223	174	78	696	640	92
Racine	153	122	80	488	479	98
Santa Fe	86	82	95	328	308	94
Wichita	158	104	66	416	354	85
Winston-Salem	235	199	85	796	744	93
Yonkers	136	127	93	508	330	65
TOTAL	3015	2260	75%	9040	8025	89%

*Since CAL data were obtained for each of two students or each of two observation days, the number of targeted CALs is four times the number of rosters returned.

We do plan to use such partial information as we possess about the districts and schools in which non-respondent teachers reside in order to find out whether definable groups of sample members are non-responding deliberately or systematically, or whether the non-response seems random and therefore negligibly biasing. In particular, we shall investigate the seriousness of non-response bias by seeking answers to the following questions:

1. To what extent is roster non-response a school phenomenon, and to what extent does it seem to result from the independent response decisions of individual teachers? Where the targeted teachers in a given school choose unanimously not to submit their rosters, something in the school climate must be operating counter to this or any research. That same factor might also be relevant to the effects of the Demonstration, and so we must look to see whether the non-respondent schools differ importantly from the respondent schools with respect to any school characteristics we may know about.

2. Do certain kinds of respondents omit items selectively? Minority teachers, for example, might choose not to answer items that carry a racial connotation for them, thus biasing the results in the direction of typical responses from non-minority teachers. A related question calls for the same kind of analysis.

3. Does item non-response depend on the answer that would have been given? That is, are respondents more likely to leave out, say, a negative answer than a positive one to a given question? For item non-response generally, we shall check its frequency and, where it is too great to be ignored, we shall include "missing-data codes" in the models that define selected analyses. The technique of missing-data coding permits a direct assessment of the extent to which non-response is relevant to (i.e., correlated with) whatever outcome differences are being examined.

3.2.3.3 The Final Year 1 Classroom/Student Samples

Contemplated analysis can be jeopardized in another way. Crucial subsamples can be too small to support them because certain school types are underrepresented. The final implementation proposals submitted by the 13 districts have increased the number of school types from the original three to a rather complex set of ten.

Much of this proliferation of school types is due to school closings and openings; some to changes in implementation decisions. Charlotte and Winston-Salem eliminated Title I services for some schools. This practice had not been planned originally. Boston, Yonkers, Houston, and Alum Rock altered their plans in terms of the numbers of schools affected.

Table 3-4 displays the new school type definitions and shows how they vary from district to district. A saturated school (see Alum Rock Types 1 and 2) is one in which all students receive Title I services; a concentrated school (see Alum Rock Types 9 and 0) is one in which only students having specific deficiencies in basic skill areas receive Title I. A "held harmless" school (see Houston Type 0) is one which qualified for Title I under poverty in 1975-76 but did not qualify under achievement in 1976-77. Services were delivered to the school in 1976-77, however, so that students previously served would not be deprived of Title I because of the Demonstration. A "Demonstration School" (see Yonkers Types 9 and 0) is one in which whole or almost whole classrooms are served by Title I rather than the smaller number of students normally receiving Title I attention in the district using a pull-out model). Finally, a "Demonstration School" in Boston means a school which did not qualify under poverty but which did qualify under achievement.

Table 3-5 shows, for each school type in each of the 13 districts, the numbers of Title I and non-Title I students in each grade for whom we have roster information for 1975-76.

TABLE 3-4

DEFINITIONS OF THE TEN SCHOOL TYPES RESULTING FROM THE DISTRICTS' FINAL IMPLEMENTATION PROPOSALS

ALL DISTRICTS EXCEPT ALUM ROCK:

Type	75-76	76-77
1	TI*	TI
2	NTI	TI
3	TI	NTI
4	NTI	NTI
5	new school	TI
6	new school	NTI
7	TI	closed
8	NTI	closed

ONLY ALUM ROCK:

1	TI	TI (saturated)
2	NTI	TI (saturated)
3	TI	NTI
4	NTI	NTI
5	new school	TI
6	new school	NTI
7	TI	closed
8	NTI	closed

DISTRICT	TYPE 9	TYPE 0
Houston	NTI, NTI (eligible under achievement but skipped)	TI, TI (held harmless)
Alum Rock	TI, TI (concentrated)	NTI, TI (concentrated)
Yonkers	TI, TI (Demonstration school)	NIT, TI (Demonstration school)
Boston	NTI, TI (Demonstration school)	

*Entries indicate the Title I status of schools. A Title I school (TI) is one in which selected students receive Title I services. A non-Title I school (NTI) is one in which no students receive Title I services.

TABLE 3-5

NUMBER OF STUDENTS FOR WHOM ROSTER INFORMATION IS AVAILABLE FOR 1975-76 BY STUDENT TYPE, GRADE, SCHOOL TYPE AND DISTRICT*

DISTRICT	STUDENT TYPE	GRADE	SCHOOL TYPE***										TOTAL
			0	1	2	3	4	5	6	7	8	9	
ADAMS COUNTY #12, COLORADO	Title I	3	24										24
		4	16										16
		mixed**	2										2
	Non-Title I	3	202	613									815
		4	213	625									838
		mixed	52	192									244
ALUM ROCK, CALIFORNIA	Title I	3	89									62	151
		4	117									43	160
		mixed	187									104	291
	Non-Title I	3	60	117							37	54	354
		4	29	204								61	325
		mixed	155	611							114	152	1,241
BERKELEY COUNTY, WEST VIRGINIA	Title I	3	133										133
		4	60										60
		mixed	4										4

*Data as presented in this table for the thirteen districts which will participate in the Demonstration in 1976-77.

**A mixed grade is a classroom which contains students from more than one grade level.

***See Table 3-4 for definition of school types.

TABLE 3-5 (continued)

NUMBER OF STUDENTS FOR WHOM ROSTER INFORMATION IS AVAILABLE FOR 1975-76 BY STUDENT TYPE, GRADE, SCHOOL TYPE AND DISTRICT*

DISTRICT	STUDENT TYPE	GRADE	SCHOOL TYPE***										TOTAL
			0	1	2	3	4	5	6	7	8	9	
BERKELEY COUNTY, WEST VIRGINIA (cont'd)	Non-Title I	3		413			259						672
		4		476			300						776
		mixed**		17									17
BOSTON, MASSACHUSETTS	Title I	3		342						39			381
		4		431						13			444
		mixed		14									14
	Non-Title I	3		510	166		545			39	50	215	1,525
		4		611	149		588			6	33	169	1,556
		mixed											
CHARLOTTE, NORTH CAROLINA	Title I	3		317		145							462
		4		430		109							539
		mixed		25		5							30
	Non-Title I	3		791	1,202	516	319						2,828
		4		824	1,190	266	462						2,742
		mixed		65	248	42	65						420

*Data as presented in this table for the thirteen districts which will participate in the Demonstration in 1976-77.

**A mixed grade is a classroom which contains students from more than one grade level.

***See Table 3-4 for definition of school types.

TABLE 3-5 (continued)

NUMBER OF STUDENTS FOR WHOM ROSTER INFORMATION IS AVAILABLE FOR 1975-76 BY STUDENT TYPE, GRADE, SCHOOL TYPE AND DISTRICT*

DISTRICT	STUDENT TYPE	GRADE	SCHOOL TYPE***										TOTAL
			0	1	2	3	4	5	6	7	8	9	
HARRISON COUNTY, WEST VIRGINIA	Title I	3		152									152
		4		155									155
		mixed**		48									48
	Non-Title I	3		415	274								689
		4		462	264								726
		mixed		65	56								121
HOUSTON, TEXAS	Title I	3	103	763									866
		4	121	653									774
		mixed			10								10
	Non-Title I	3	193	956	896		3,894					931	6,870
		4	112	816	723		3,967					996	6,614
		mixed	26	21	60		25						132
MESA, ARIZONA	Title I	3		218									218
		4		209									209
		mixed		58									58

*Data as presented in this table for the thirteen districts which will participate in the Demonstration in 1976-77.

**A mixed grade is a classroom which contains students from more than one grade level.

***See Table 3-4 for definition of school types.

TABLE 3-5 (continued)

NUMBER OF STUDENTS FOR WHOM ROSTER INFORMATION IS AVAILABLE
FOR 1975-76 BY STUDENT TYPE, GRADE, SCHOOL TYPE AND DISTRICT*

DISTRICT	STUDENT TYPE	GRADE	SCHOOL TYPE***										TOTAL
			0	1	2	3	4	5	6	7	8	9	
MESA, ARIZONA (cont'd)	Non-Title I	3		622	555								1,177
		4		480	579								1,059
		mixed**		30	112								142
NEWPORT, RHODE ISLAND	Title I	3		15									15
		4		38									38
		mixed											
	Non-Title I	3		61	251								312
		4		53	232								285
		mixed											
RACINE, WISCONSIN	Title I	3		56									56
		4		39									39
		mixed		10									10
	Non-Title I	3		376	949								1,325
		4		430	828								1,258
		mixed		184	76								260

*Data as presented in this table for the thirteen districts which will participate in the Demonstration in 1976-77.

**A mixed grade is a classroom which contains students from more than one grade level.

***See Table 3-4 for definition of school types.

TABLE 3-5 (continued)

NUMBER OF STUDENTS FOR WHOM ROSTER INFORMATION IS AVAILABLE FOR 1975-76 BY STUDENT TYPE, GRADE, SCHOOL TYPE AND DISTRICT*

DISTRICT	STUDENT TYPE	GRADE	SCHOOL TYPE***										TOTAL
			0	1	2	3	4	5	6	7	8	9	
SANTA FE, NEW MEXICO	Title I	3		105									105
		4		143									143
		mixed**		58									58
	Non-Title I	3		294	300								594
		4		438	291								729
		mixed		73									73
WINSTON-SALEM, NORTH CAROLINA	Title I	3		311		32							343
		4		283		47							330
		mixed		3		1							4
	Non-Title I	3		403	1,154	83	609						2,249
		4		562	1,073	214	658						2,507
		mixed		18		23	20						61
YONKERS, NEW YORK	Title I	3		176						99		86	361
		4		197						111		82	390
		mixed											

*Data as presented in this table for the thirteen districts which will participate in the Demonstration in 1976-77.

**A mixed grade is a classroom which contains students from more than one grade level.

***See Table 3-4 for definition of school types.

TABLE 3-5 (continued)

NUMBER OF STUDENTS FOR WHOM ROSTER INFORMATION IS AVAILABLE FOR 1975-76 BY STUDENT TYPE, GRADE, SCHOOL TYPE AND DISTRICT*

DISTRICT	STUDENT TYPE	GRADE	SCHOOL TYPE***										TOTAL
			0	1	2	3	4	5	6	7	8	9	
YONKERS, NEW YORK	Non-Title I	3	142	53	45		591			74	108	34	1,047
		4	181	46	64		617			65	113	45	1,131
		mixed**					22						22

*Data as presented in this table for the thirteen districts which will participate in the Demonstration in 1976-77.

**A mixed grade is a classroom which contains students from more than one grade level.

***See Table 3-4 for definition of school types.

Similarly, Table 3-6 shows the numbers of children for whom we have usable pairs of Year I CAL forms. It is apparent from these distributions that we are in a position to address different kinds of questions than we had anticipated. In some cases (e.g., Boston's School Type 7), the proliferation of types has merely diluted the subsamples of interest. In other cases (e.g., Alum Rock's Type 9), the introduction of a new school type has created the means to address a set of questions that would not have arisen under the old three-type stratification. Since the rosters contain only very limited information, the large subsample sizes that appear in Table 3-5 apply only to a limited set of analyses; for answers to our most detailed questions, we must look to the much smaller groups of children enumerated in Table 3-6. These imply that grade level analyses cannot be supported in the large majority of districts. Thus, in retrospect, the decision to sample from contiguous grades proved to be a wise one.*

3.2.3.4 Selection Procedures and Response Rates for the Principal, Specialists and Parent Sample

All elementary school principals in the thirteen districts were included in the principal sample. Each of them received a school and principal background form. Principals of schools receiving Title I services also received a Title I supplement; those with other compensatory programs also received an additional supplement.** Response rates for the principal sample are displayed in Table 3-7. As noted in the table, the overall response rate was found to be 79%. Response rates by site range from a low of 63% in Alum Rock to a high of 100% in

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*This discussion has not included response rates and sample sizes for another set of classroom/student level instruments, the modules. These response rates are now being determined. They will be reported with the results of the Year 1 analyses.

**See Section 6.3 for a fuller discussion of these instruments.

TABLE 3-6

NUMBER OF STUDENTS FOR WHOM CAL INFORMATION IS AVAILABLE FOR 1975-76 BY STUDENT TYPE, GRADE, SCHOOL TYPE AND DISTRICT*

DISTRICT	STUDENT TYPE	GRADE	SCHOOL TYPE***										TOTAL
			0	1	2	3	4	5	6	7	8	9	
ADAMS COUNTY #12, COLORADO	Title I	3		4	0								4
		4		4	0								4
		mixed**		0	0								0
	Non-Title I	3		10	41								51
		4		12	31								43
		mixed		2	5								7
ALUM ROCK, CALIFORNIA	Title I	3		6								6	12
		4		6								4	10
		mixed	1	7								6	14
	Non-Title I	3	6	2	8						4	4	24
		4	1		13							4	18
		mixed	7	11	38						8	10	74
BERKELEY COUNTY, WEST VIRGINIA	Title I	3	15										15
		4	10										10
		mixed	1										1

*Data are presented in this table for the thirteen districts which will participate in the Demonstration in 1976-77.

**A mixed grade is a classroom which contains students from more than one grade level.

***See Table 3-4 for definition of school types.

TABLE 3-6 (continued)

NUMBER OF STUDENTS FOR WHOM CAL INFORMATION IS AVAILABLE FOR 1975-76 BY STUDENT TYPE, GRADE, SCHOOL TYPE AND DISTRICT*

DISTRICT	STUDENT TYPE	GRADE	SCHOOL TYPE***										TOTAL
			0	1	2	3	4	5	6	7	8	9	
BERKELEY COUNTY, WEST VIRGINIA (cont'd)	Non-Title I	3		23			14						37
		4		26.			16						42
		mixed**		1									1
BOSTON, MASSACHUSETTS	Title I	3		32						1			33
		4		31						1			32
		mixed		2									2
	Non-Title I	3		34	16		54			1	6	16	127
		4		36	13		51			1	2	12	115
		mixed											0
CHARLOTTE, NORTH CAROLINA	Title I	3		44		25							69
		4		46		13							59
		mixed		3		1							4
	Non-Title I	3		41	92	29	28						190
		4		45	80	11	31						167
		mixed		3	14	1	2						20

*Data are presented in this table for the thirteen districts which will participate in the Demonstration in 1976-77.

**A mixed grade is a classroom which contains students from more than one grade level.

***See Table 3-4 for definition of school types.

TABLE 3-6 (continued)

NUMBER OF STUDENTS FOR WHOM CAL INFORMATION IS AVAILABLE
FOR 1975-76 BY STUDENT TYPE, GRADE, SCHOOL TYPE AND DISTRICT*

DISTRICT	STUDENT TYPE	GRADE	SCHOOL TYPE***										TOTAL
			0	1	2	3	4	5	6	7	8	9	
HARRISON COUNTY WEST VIRGINIA	Title I	3		24									24
		4		22									22
		mixed**		4									4
	Non-Title I	3		24	22								46
		4		21	20								41
		mixed		4	4								8
HOUSTON, TEXAS	Title I	3		5	53								58
		4		5	31							2	38
		mixed			1								1
	Non-Title I	3		11	44	44	221					50	370
		4		4	41	42	231					64	382
		mixed			1		1						3
MESA, ARIZONA	Title I	3		24									24
		4		23									23
		mixed		2									2

*Data are presented in this table for the thirteen districts which will participate in the Demonstration in 1976-77.

**A mixed grade is a classroom which contains students from more than one grade level.

***See Table 3-4 for definition of school types.

TABLE 3-6 (continued)

NUMBER OF STUDENTS FOR WHOM CAL INFORMATION IS AVAILABLE FOR 1975-76 BY STUDENT TYPE, GRADE, SCHOOL TYPE AND DISTRICT*

DISTRICT	STUDENT TYPE	GRADE	SCHOOL TYPE***										TOTAL
			0	1	2	3	4	5	6	7	8	9	
MESA, ARIZONA (cont'd)	Non-Title I	3		34	37								71
		4		23	33								56
		mixed**		2	4								6
NEWPORT, RHODE ISLAND	Title I	3		1									1
		4		3									3
		mixed											0
	Non-Title I	3		2	20								22
		4		3	17								20
		mixed											0
RACINE, WISCONSIN	Title I	3		15	6								21
		4		14	3								17
		mixed		4	1								5
	Non-Title I	3		17	72								89
		4		21	63								84
		mixed		6	2								8

*Data are presented in this table for the thirteen districts which will participate in the Demonstration in 1976-77.

**A mixed grade is a classroom which contains students from more than one grade level.

***See Table 3-4 for definition of school types.

TABLE 3-6 (continued)

NUMBER OF STUDENTS FOR WHOM CAL INFORMATION IS AVAILABLE FOR 1975-76 BY STUDENT TYPE, GRADE, SCHOOL TYPE AND DISTRICT*

DISTRICT	STUDENT TYPE	GRADE	SCHOOL TYPE***										TOTAL
			0	1	2	3	4	5	6	7	8	9	
SANTA FE, NEW MEXICO	Title I	3		18	1								19
		4		21									21
		mixed**		9									9
	Non-Title I	3		19	24								48
		4		31	21								52
		mixed		7									7
WINSTON-SALEM, NORTH CAROLINA	Title I	3		24		5	3					3	32
		4		25		8	2						35
		mixed		1		1							2
	Non-Title I	3		24	80	3	35						142
		4		28	64	7	28						127
		mixed		1		1	2						4
YONKERS, NEW YORK	Title I	3		6						7		3	16
		4		5						6		2	13
		mixed											0

---

*Data are presented in this table for the thirteen districts which will participate in the Demonstration in 1976-77.

**A mixed grade is a classroom which contains students from more than one grade level.

***See Table 3-4 for definition of school types.

TABLE 3-6 (continued)

NUMBER OF STUDENTS FOR WHOM CAL INFORMATION IS AVAILABLE FOR 1975-76 BY STUDENT TYPE, GRADE, SCHOOL TYPE AND DISTRICT*

DISTRICT	STUDENT TYPE	GRADE	SCHOOL TYPE***										TOTAL
			0	1	2	3	4	5	6	7	8	9	
YONKERS, NEW YORK (cont'd)		3	12	2	4		35			7	2	3	65
		4	10	4	4		40			3	4	3	68
		mixed**					2						2

*Data are presented in this table for the thirteen districts which will participate in the Demonstration in 1976-77.

**A mixed grade is a classroom which contains students from more than one grade level.

***See Table 3-4 for definition of school types.

TABLE 3-7

1975-76 RESPONSE RATES FOR PRINCIPAL QUESTIONNAIRES

SITE	PRINCIPAL FORMS MAILED	PRINCIPAL FORM RECEIVED	PERCENT RESPONSE
Adams County, Colorado	16	12	75
Alum Rock, California	19	12	63
Berkeley County, West Virginia	13	11	85
Boston, Massachusetts	117	75	64
Charlotte, North Carolina	73	67	92
Freeport, New York	4	4	100
Harrison County, West Virginia	30	29	97
Houston, Texas	169	117	69
Mesa, Arizona	25	19	76
Newport, Rhode Island	10	10	100
Oklahoma City, Oklahoma	81	74	91
Racine, Wisconsin	28	22	79
Santa Fe, New Mexico	16	16	100
Wichita, Kansas	77	60	78
Winston-Salem, North Carolina	37	37	100
Yonkers, New York	31	23	74
TOTALS	746	588	79

Winston-Salem. Only three of the 13 sites had response rates below 74%. Given this response level, we feel that the consequences of non-response are likely to be minimal. We will investigate the effects of non-response and response bias, however, using procedures similar to those used for the classroom/student sample (see Section 3.2.3.2).

All compensatory language arts and mathematics specialists in each of the Demonstration districts were included in the specialist sample. Each of them received an Instructional Schedule, the primary objective of which is to estimate the amount of time per week specialists spend instructing children.* Response rates for this instrument are presented in Table 3-8 As noted in the table, the overall response rate was found to be 75%. The Yonkers response rate (52%) presents some problems for analysis. A low response rate was anticipated, however, given the upheaval caused by the closing of six of the 31 elementary schools in the district and the subsequent dismissal of over 400 teachers. The Mesa ratio is also problematic, and as for the other sites, non-response and response bias will be investigated to the extent possible with existing data.

The Parent Sample included (a) parents of all third- and fourth-grade Title I students in Title I schools and (b) parents of all third-grade students in non-Title I schools for whom teachers had completed CALs. Response rates for the sample are presented in Table 3-9. The response rates for individual sites were high, with the exception of Berkeley County (49%) (where regional factors such as geographical and cultural distance limited the ability to conduct face-to-face interviews in the home), Yonkers (64%), and Adams County (68%). Only one of the remaining sites (Oklahoma City at 74%) had a response rate less than 80%. For the majority of sites, therefore,

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*See Section 6.2 for a more complete description of this instrument.

TABLE 3-8

1975-76 RESPONSE RATES FOR INSTRUCTIONAL SCHEDULES

SITE	INSTRUCTIONAL SCHEDULE SAMPLE	INSTRUCTIONAL SCHEDULE RETURNED	PERCENT RESPONSE
Adams County #12, Colorado	9	8	89
Alum Rock, California	16	14	87
Berkeley County, West Virginia	9	7	78
Boston, Massachusetts	265	175	66
Charlotte, North Carolina	153	136	89
Freeport, New York	14	14	100
Harrison County, West Virginia	18	18	100
Houston, Texas	379	260	69
Mesa, Arizona	13	6	46
Newport, Rhode Island	10	10	100
Oklahoma City, Oklahoma	82	74	90
Racine, Wisconsin	21	16	76
Santa Fe, New Mexico	5	5	100
Wichita, Kansas	56	54	96
Winston-Salem, North Carolina	36	28	78
Yonkers, New York	52	27	52
TOTALS	1,138	852	75

TABLE 3-9

1975-76 RESPONSE RATES FOR PARENT INTERVIEWS

SITE	PARENT INTERVIEW SAMPLE	INTERVIEWS CONDUCTED	RESPONSE RATE
Adams County #12, Colorado	63	43	68
Alum Rock, California	129	115	89
Berkeley County, West Virginia	75	37	49
Boston, Massachusetts	224	206	92
Charlotte, North Carolina	348	318	91
Freeport, New York	68	56	82
Harrison County, West Virginia	103	82	80
Houston, Texas	552	472	86
Mesa, Arizona	136	124	91
Newport, Rhode Island	27	25	93
Oklahoma City, Oklahoma	84	62	74
Racine, Wisconsin	142	132	93
Santa Fe, New Mexico	100	96	96
Wichita,* Kansas	--	--	--
Winston-Salem, North Carolina	232	195	84
Yonkers, New York	127	81	64
TOTALS	2,283	1,841	82

*Since Wichita had already decided not to participate in the Demonstration in 1975-76, no parent interviews were scheduled there.

non-response appears to be a small and solvable problem. We will investigate the degree to which it is a problem to the extent permitted given available data.

3.2.3.5 The Year 2 Sample (1976-1977)

As noted at the beginning of Section 3.0, three of the Demonstration districts--Wichita, Freeport, and Oklahoma City--decided not to apply for second-year funding, thus reducing the number of sites to 13. The defection of these three districts left Racine as the Demonstration's only midwestern site. Since the original 16 districts were not selected at random and since analyses will be conducted at the site level, the consequences of the site reduction are minimal.

For the 13 remaining sites the number of elementary schools is presented by school type in Table 3-10. Table 3-11 shows the number of elementary schools of each type in the sample. As is apparent from Table 3-10, substantially fewer schools ended up as Type II schools than had originally been included (cf. Table 3-1).* It is fortunate, therefore, that we oversampled from this crucial school type to guarantee representative baseline data.

The sampling procedures used in 1976-77 were the same as those described for 1975-76, with several notable exceptions. Due to the nature of the Demonstration in Boston, Classroom Activity Log (CAL) and module data will be collected only in the Type 9 schools. In Yonkers, and again due to the nature of the Demonstration, CAL and module data will be collected only in Title I schools (Types 1, 2, 9 and 0). All other data for these two sites will be collected as has been described. To gather CAL and module data in all "sample" schools in these sites would have diverted an undue proportion of project funds from the resolution of the primary research questions, all of

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*We had oversampled in anticipation of such decisions because in Janaury of 1976 LEAs were only able to provide a pool of schools from which Type II schools would be selected.

TABLE 3-10

NUMBER OF SCHOOLS IN EACH DISTRICT BY SCHOOL TYPE FOR 1976-77

SCHOOL DISTRICT	SCHOOL TYPE										TOTAL NUMBER OF SCHOOLS IN DISTRICT
	0	1	2	3	4	5	6	7	8	9	
Adams County #12, Colorado		3	13								16
Alum Rock, California	4	5	7						1	8	25
Berkeley County, West Virginia		10			3	1					14
Boston, Massachusetts		61	6		35			5	3	7	117
Charlotte, North Carolina		40	17	9	7		2				75
Freeport, New York*											---
Harrison County, West Virginia		25	5								30
Houston, Texas	10	44	9		95					11	169
Mesa, Arizona		13	12								25
Newport, Rhode Island		4	6								10
Oklahoma City, Oklahoma*											
Racine, Wisconsin		9	19								28
Santa Fe, New Mexico		11	5								16
Wichita, Kansas*											---
Winston-Salem, North Carolina		10	14	3	10		1				38
Yonkers, New York	2	4	1		16			3	3	2	31

*These districts did not participate in the Demonstration in 1976-77.

TABLE 3-11

EXPECTED NUMBER OF SAMPLE SCHOOLS
IN EACH DISTRICT BY SCHOOL TYPE
FOR 1976-77

SCHOOL DISTRICT	SCHOOL TYPE 0	1	2	3	4	5	6	7	8	9	TOTAL NUMBER OF SCHOOLS IN DISTRICT
Adams County #12, Colorado		3	13								16
Alum Rock, California	4	5	4							5	18
Berkeley County, West Virginia		10			2	1					13
Boston, Massachusetts		32	6		24					7	69
Charlotte, North Carolina		26	17	9	7						59
Freeport, New York*											---
Harrison County, West Virginia		18	5								23
Houston, Texas	7	23	7		20					11	68
Mesa, Arizona		13	12								25
Newport, Rhode Island		4	6								10
Oklahoma City, Oklahoma*											---
Racine, Wisconsin		9	17								26
Santa Fe, New Mexico		11	5								16
Wichita, Kansas*											---
Winston-Salem, North Carolina		8	8	3	7		1				27
Yonkers, New York	2	4	1							2	9

*These districts did not participate in the Demonstration in 1976-77.

which can be answered either with the data to be collected in 1976-77, or with data obtained in 1975-76.*

Table 3-12 shows for each grade, for each school type in each Demonstration district, the number of classrooms from which we plan to obtain Year 2 Roster information. The numbers of children in the corresponding cells of the Year 2 student sample design will approach two per targeted classroom, to the extent that we can eliminate non-response. If non-response is comparable to what it was in 1975-76, we can expect to lose a third of the targeted students.

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*These questions address issues such as the effect of Title I on non-Title I students in Title I schools (supplanting and comparability issues), and the effect of Title I on non-Title I schools, and so forth.

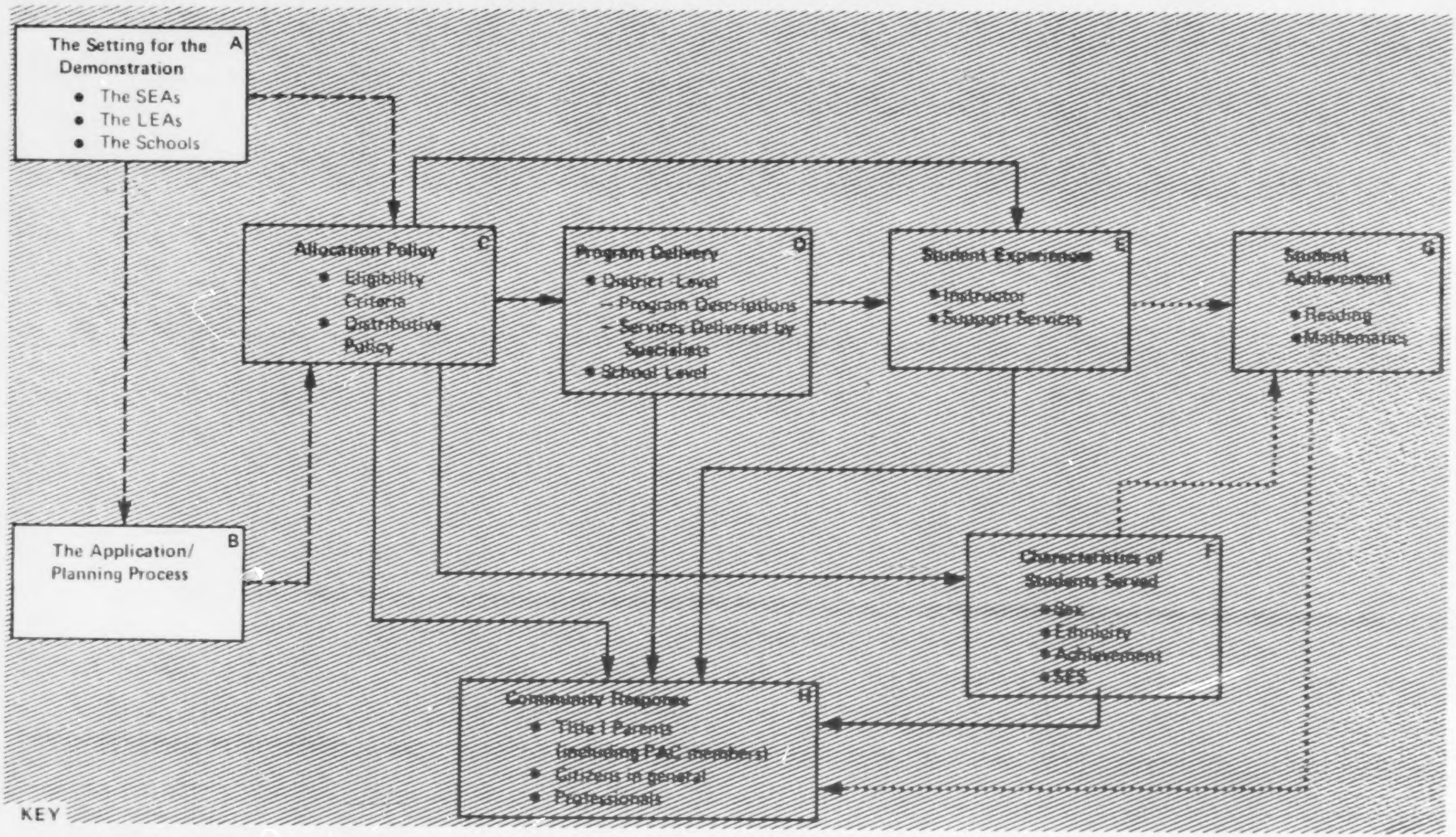
TABLE 3-12

CLASSROOMS TARGETED IN EACH DISTRICT FOR 1976-77 BY SCHOOL TYPE AND GRADE LEVEL

DISTRICT	GRADE	SCHOOL TYPE										TOTALS
		1	2	3	4	5	6	7	8	9	0	
Adams County, Colorado	3	9	34									43
	4	11	33									44
	mixed*	0	8									8
Alum Rock, California	3	6	10							11	5	32
	4	4	10							9	5	28
	mixed	16	16							13	10	55
Berkeley County, West Virginia	3	21			8	2						31
	4	19			6	2						27
	mixed	4			0	0						4
Boston, Massachusetts	3	74	32		36							142
	4	77	30		38							145
	mixed	11	1		0							12
Charlotte, North Carolina	3	77	59	24	28							188
	4	74	46	7	14							141
	mixed	31	26	1	6							64
Harrison County, West Virginia	3	24	11									35
	4	24	10									34
	mixed	6	0									6
Houston, Texas	3	76	30		95					43	14	258
	4	72	29		91					41	10	243
	mixed	3	0		9					1	6	19
Mesa, Arizona	3	38	37									75
	4	31	30									61
	mixed	12	11									23
Newport, Rhode Island	3	4	10									14
	4	4	10									14
	mixed	---	---									--
Racine, Wisconsin	3	17	43									60
	4	17	43									60
	mixed	10	20									30
Santa Fe, New Mexico	3	27	14									41
	4	21	13									34
	mixed	8	0									8
Winston-Salem, North Carolina	3	35	45	11	27		3					121
	4	25	40	9	23		3					100
	mixed	0	0	0	13		0					13
Yonkers, New York	3	12	11		39					5		66
	4	12	10		37					5		64
	mixed	--	--		--					---		--

*A mixed grade is a classroom which contains students from more than one grade level.

Chapter 4
THE CONTEXT


The Setting for the Demonstration
A
• The SEAs
• The LEAs
• The Schools
Allocation Policy
C
• Eligibility Criteria
• Distributive Policy
Program Delivery
D
• District Level
– Program Descriptions
– Services Delivered by Specialists
• School Level
Student Experiences
E
• Instructor
• Support Services
Student Achievement
G
• Reading
• Mathematics
The Application/ Planning Process
B
Characteristics of Students Served
F
• Sex
• Ethnicity
• Achievement
• SES
Community Response
H
• Title I Parents (including PAC members)
• Citizens in general
• Professionals

KEY

- – – – – Links to be analyzed conceptually
- ——— Links to be analyzed statistically for full range of districts
- ·········· Links to be analyzed statistically, where possible, for a subset of districts

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4.0 THE CONTEXT

For purposes of analysis, we have divided the context of the Demonstration Study into two parts: the setting and the application and planning process. The setting includes characteristics of the State Educational Agencies (SEAs) and their mechanisms for regulating Title I, the demographic and bureaucratic characteristics of the Demonstration districts, and the characteristics of the schools within the districts. The application and planning process includes the history of the district selection process, as well as the actors and activities involved in the planning year. The distinction is somewhat arbitrary because both of these contextual components provide a background for the study, shed light on the issue of selectivity, and may be seen as potential mediators for allocation policy decisions and other study outcomes.

The differentiation is made for two reasons. First, the setting is viewed as relatively unchangeable in contrast to application and planning procedures, which are seen as manipulable. Demographic characteristics are by nature fixed, if not constant, and while certain organizational variables may be manipulable, they are somewhat removed from the policy concerns of this research. Since Title I is a large-scale social program, it is unlikely that the policy options suggested by this research would be applied selectively on the basis of demographic or organizational characteristics or that manipulating such characteristics on a broad scale would be feasible. On the other hand, application and planning procedures are subject to manipulation by policy makers. Identification of "successful" application and planning procedures can be useful in developing guidelines or recommendations for districts seeking to replicate demonstrations similar to those of these 13 districts.

Secondly, we wish to distinguish the setting from the application and planning component to emphasize the fact that one may influence the other (Link AB in the Analytic Model). In large, centralized districts with differentiated staffing patterns, for example, the application process may not include representatives of the primary interest groups with a stake in the Demonstration, i.e., principals, program administrators, teachers, and parents. Similarly, demographic and bureaucratic features may affect planning activities, once districts have been selected.

In summary, the setting provides us with a picture of the broad organizational context in which the Demonstration takes place. The application and planning variable group offers a description of the specific ways in which the Demonstration is conceived and nurtured. The former is seen as relatively inert, the latter as more manipulable. And the former may influence the latter.

4.1 The Setting

4.1.1 Research Objectives

Education and educational change occur in a social setting. The social setting for the Demonstration is of importance, therefore, because it represents a set of contextual variables which may influence directly allocation changes and indirectly other variable groups.

Most research on educational change has focused on single innovations and the factors that cause individuals to adopt or reject them.* But even an individual educator who is innovative is enmeshed in an organizational context. The structure and other characteristics of educational organizations are often more important for successful implementation of change than the particular blend of personality types within them.**

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*E. Rogers and F. Shoemaker, Communication of Innovations (New York: The Free Press, 1971).

**J. Hage and M. Aiken, Social Change in Complex Organizations (New York: Random House, 1970).

The structure of the organizational setting embodies the openness of an organization to change and how organizations change in different ways. These structural variables include complexity, centralization, formalization, and stratification of the organization.*

Other characteristics also affect the responsiveness or resistance of an organization to change. These include organizational attitudes that support change, clarity of goal structures, professionalism of staff, and not too many interests in preserving the status quo.** We find also that a school is most likely to adapt to those outside pressures least at variance with its previous commitments.*** Finally, there must be resources available in terms of money, personnel, time, and skill.****

Thus, important to the understanding of the process of change in educational organizations is an awareness of the organizational systems and subsystems and the strategies that can be used to cause and support educational change.

The setting for the Demonstration may be described at three levels:

- The State Level - State Educational Agencies (SEAs), through which Title I funds are distributed;
- The School District Level - Local Educational Agencies (LEAs), to which Title I funds are allocated;

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*W. Buckley, Sociology and Modern Systems Theory (Englewood Cliffs, NJ: Prentice-Hall, 1967).

**E. Glaser and H. Ross, Increasing the Utilization of Applied Research Results (Los Angeles: Human Interaction Research Institute, 1971).

***N. Gross, M. Giacquinta, and M. Bernstein, Implementing Organizational Innovations: A Sociological Analysis of Planned Organizational Change (New York: Basic Books, 1971).

****J. Baldridge and T. Deal, Managing Change in Educational Organizations (Berkeley, CA: McCutchan Publishing Corporation, 1975).

- The School Level - of which there are three types: those which are recipients of Title I funds all three years of the Demonstration; those which are recipients during the implementation years only; and those which never receive Title I funds.

The setting at each of these three levels provides the context for the Demonstration and may influence allocation policy. All three levels will be examined with the following objectives:

- To describe the bureaucratic characteristics of SEAs and their mechanisms for regulating Title I;
- To describe the demographic, bureaucratic, and political characteristics of the Demonstration school districts, and their mechanisms for administering Title I;
- To describe the physical and other characteristics of the schools within the Demonstration school districts;
- To determine the degree to which the settings of the Title I Demonstration programs are representative of other Title I school districts;
- To determine the degree to which the settings of the Demonstration programs vary; and
- To determine the degree to which the characteristics of the settings influence allocation policy.

4.1.2 Data Sources and Variables

Data will be collected pertaining to each of the three levels from a variety of relevant data sources. These data sources are summarized in Figure 4-1. Each of the levels of the setting and their variables of interest are described below:

The State Level

State Educational Agencies are of interest to this study because they are the agencies through which the Title I funds are allocated. As such they are the primary regulatory

FIGURE 4-1

DATA SOURCE BY LEVEL

DATA SOURCE

	Informal SEA Interviews	Informal LEA District Questionnaires	Principal Questionnaires	U.S. Census Fourth Count Data	ESEA Title I Comparability Report	Project Files *
ate	X	X				X
strict		X	X	X	X	X
hool			X		X	X

*This data source is not detailed or further explained in the analytic plan, but will be a valuable source of information and will be used when and where appropriate.

agencies of the Title I projects. The SEA variables of interest include:

- complexity
  - number of Title I staff
  - duties and responsibilities of Title I staff
- degree of centralization of Title I decision-making
- degree of formalization of Title I regulations or guidelines which govern District Title I activities
- mechanisms for evaluating Title I programs
- degree of supervision of Title I programs within LEAs

There are two primary data sources for the state level:

- informal face-to-face interviews with SEA staff
- informal face-to-face interviews with LEA staff

The District Level

The school district is the level at which the Title I programs are administered. The bureaucratic, demographic and political characteristics of the school district organizations are seen as independent and mediating variables influencing allocation changes and program delivery.

The LEA organizational and political variables of interest include:

- complexity
  - number of Title I staff
  - duties and responsibilities of Title I staff
- degree of formalization - existence of policies outlining rules and regulations of Title I activities
- degree of centralization of district Title I decision-making
- degree of public controversy over school related issues

The data sources for the above variables are:

- informal interviews with LEA staff
- principal questionnaires

Additional demographic characteristics of the school districts will be derived from U.S. fourth count Census data. These demographic variables include:

- mobility, including birthplace, length of residence, and region of residence
- ethnic composition, including native language and parentage indicators
- family structure, including parent presence and sibling structure indicators
- educational attainment, including indicators of public vs. private school populations, and years of schooling completed
- economic structure, including age of labor force, unemployment, income source indicators, and occupational profile data
- poverty, including the percent and nature of community families below the poverty level
- income structures, consisting of indicators of the dollar income of community members
- general demographic, including sex, total population and housing count data

The School Level

The third level of our description of the setting for the demonstration is the schools themselves. Variables of interest here are the following:

- physical characteristics and facilities
  - age of building
  - total number of classrooms
  - number of classrooms utilized for instructional purposes
  - number of open classrooms and number of students enrolled
  - existence of various facilities (e.g., gym, cafeteria, athletic field, etc.)
  - existence of library and number of volumes contained

- grade span and enrollment by grade
- classroom assignment procedures in regular instructional programs
- principal characteristics
  - educational attainment
  - professional experience
- staff in full-time equivalents
- staff-pupil ratio
- characteristics of student population
  - ethnicity
  - SES

4.1.3 Analytic Methods

At the state and district levels, where the number of cases is less than or equal to 13, analytic techniques will be primarily descriptive, although simple comparative analyses will also be employed. Means and standard deviations will be compiled for all continuous variables, and frequency distributions for categorical variables. For categorical variables, such as SEA complexity and formalization, contingency tables will be developed. For ordinal or continuous variables, such as size and degree of centralization decision-making, Rank Order Grids will be utilized.*

At the school level, additional statistical techniques will be employed to compare types of schools. Two factors will be involved in these analyses: district (levels $\leq$ 13) and school types (levels = 2 or 3). For all districts, two school types will be analyzed: Title I during the current year, and Title I during the implementation years only. For a subset district having a third school type--never Title I--another set of analyses will be performed.

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*A Rank Order Grid is a matrix in which one graphically displays one rank order variable against another. In this study, the matrix would be 13 x 13, in order to plot each of the Demonstration districts.

The analysis strategies chosen for comparing contextual characteristics at the school level depend on the nature of the response scale of the variable being analyzed. Chi-square analyses will be used with categorical variables, and some form of analysis of variance will be used with continuous, ordered, or dichotomous variables.

4.2 The Application and Planning Process

4.2.1 Research Objectives

The second aspect of the context of the Demonstration under consideration in this study is the application and planning period. Whereas the setting considers the static, relatively fixed dimensions of the context, this section covers the more dynamic aspects of context, the application and planning process. Certain organizations have more built in capacities for assessing needs and planning viable alternatives than others and the process by which they undertake these activities also varies. A major purpose in examining the planning process is to identify the manipulable variables, which promote change.

Many students of the planning process emphasize the importance of paticipation in planning by various affected actor groups.* An underlying assumption of many researchers is that if those who are affected by the decisions are involved in decision-making, they will be more willing to adjust to changes, thus reducing an important source of possible resistance.** Another frequently made assumption is that broad participation of affected actor groups increases the likelihood that changes undertaken will be relevant to important organizational needs.* (It may be pointed out, however, that evidence to test these assumptions is not widespread.**)

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*G. Zaltman, et al., Innovations and Organization (New York: John Wiley & Sons, 1973).

**A. K. Gaynor, The Study of Change in Educational Organizations: A Review of the Literature, paper presented at UCEA, Ohio State University Career Development Seminar, Columbus, Ohio, May 1975.

Opinion is currently divided as to the efficiency of two different approaches to decision making: authority decisions and collective decisions. Authority decisions are those made by an individual or "dominant coalition."*** Collective decisions are made by all or a majority of the organizational members. Each approach to decision making has some inherent difficulties. Authority decisions can lead to resistance from those who feel disenfranchised; it may also lead to decisions which are perceived as incongruent with organizational needs. Collectively made decisions may result in resentment from members whose viewpoint is not accepted.

In studying the school districts in the Title I Demonstration program, these factors and their relevance to allocation changes and program delivery will be explored. The objectives of this part of the research are:

- to describe the history of the application process,
- to describe the activities of the first year planning process,
- to identify the participants of the planning process,
- to draw inferences about problems associated with planning,
- to identify the process variables associated with alternative allocation policies,
- to identify factors associated with changes in allocation policy,

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*H. Shepard, "Innovation-Resisting and Innovation-Producing Organizations," Journal of Business 40 (1967):470-477.

**N. Gross, M. Giacquinta, and M. Bernstein, Implementing Organizational Innovations: A Sociological Analysis of Planned Organizational Change (New York: Basic Books, 1971).

***J. Thompson, Organizations in Action (New York: McGraw-Hill Book Co., 1967).

- to identify factors associated with changes in program delivery,
- to identify the factors of planning that can be useful in developing guidelines, and recommendations for districts seeking to replicate the Demonstrations, and
- to describe and analyze the selection process and draw inferences from the process about representativeness of the Demonstration projects.

In order to achieve these objectives, the application and planning processes will be examined separately.

4.2.2 Data Sources and Variables

Data on the application and planning process will be gathered from a variety of data sources at the state, school district, and school levels. These include:

- informal face to face interviews with SEA Title I officer,
- informal face to face interviews with the LEA administrative personnel,
- principle questionnaires to all principals in the Demonstration Districts,
- observation of program activities by AAI personnel, and
- review of district and school records on and off site.

The Application Process

The application process involved both state and local participation. Each will be discussed. At the state level, several aspects of the initial application period will be considered, including the way in which SEAs first learned of the Demonstration, the manner in which they first communicated with local school districts, and subsequent interactions. Of specific interest are:

- the criteria used by the SEAs in selecting districts to be notified of the Demonstration,
- the criteria by which the SEAs determined which of the school district applications they received would be forwarded to NIE,

- any modifications made by SEAs prior to forwarding the proposals to NIE,
- the amount of time spent by SEA staff with LEAs in activities related to their application and selection as potential Demonstration districts, and
- the time interval which passed between SEA's first awareness of the Demonstration project (receipt of the RFP) and its forwarding of applications to NIE.

At the district level, the involvement of the LEAs in the application process will be described from the following perspectives:

- the way in which the districts initially learned of the Demonstration project,
- the reasons which prompted the districts to apply,
- the participants in district level meetings held to consider the application,
- the nature of the district level meetings held to consider the application, including the number of meetings held and the substance of the meetings held, and
- identification of key decision makers in the application process.

Throughout a discussion of the application process, it must be noted that the selection process was not a systematic one. The selection process conducted by the states, the self-selection of school districts, and the ultimate selection of participant districts by NIE were all non-random. This constrains the generalizability of findings from the study to the larger population of Title I school districts. It is our intention to explore this selection process and to examine the relationship between the various selection mechanisms and the allocation policy and program delivery.

The Planning Process

Sixteen districts were ultimately selected for participation in the Demonstration. The planning process is of particular interest as it includes manipulable factors in organizational change. As such, it provides the context from which inferences can be drawn to provide guidelines for replicability of the Demonstration.

Documentation of the planning process will include discussion of the following variables:

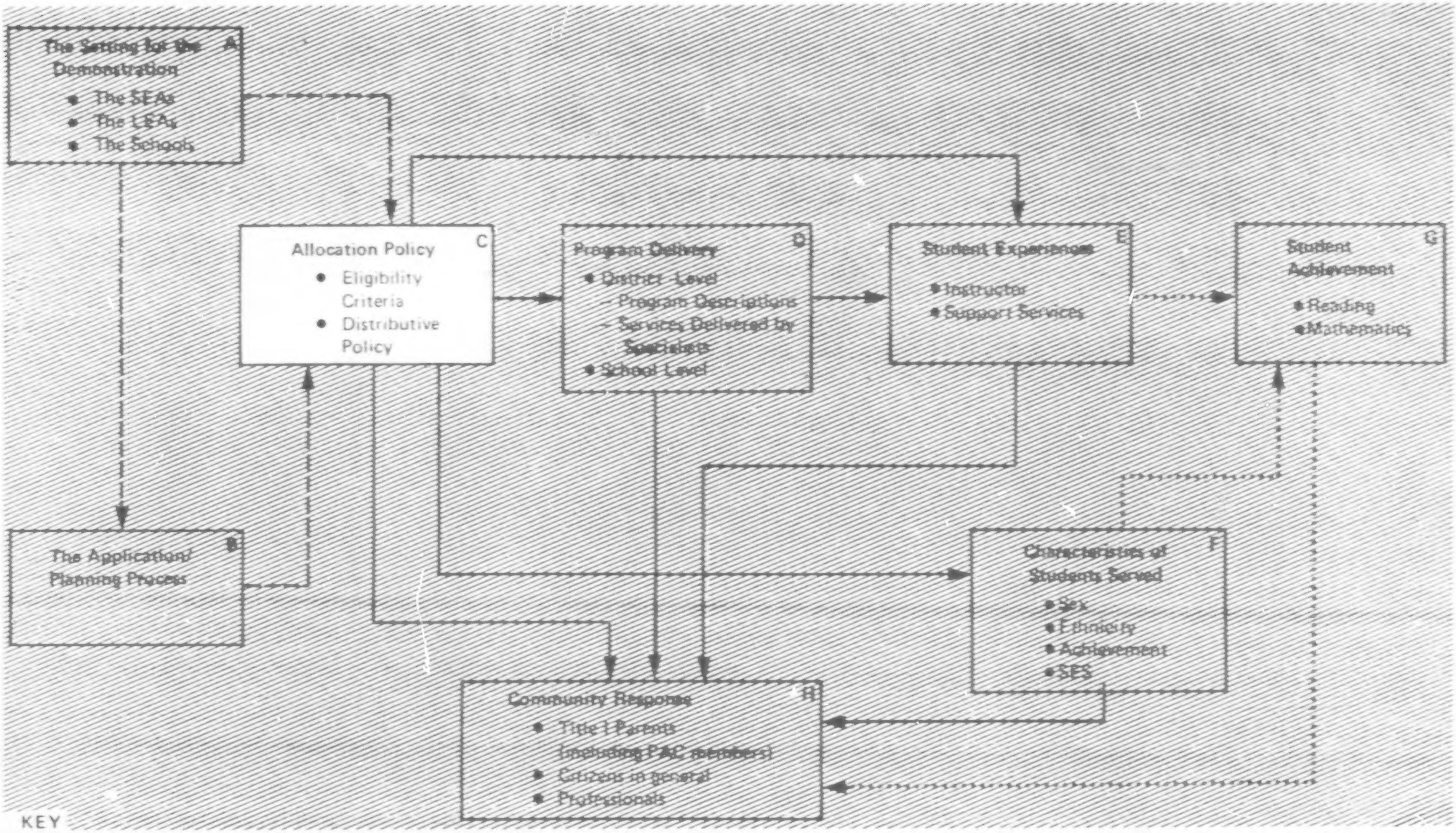
- extent of involvement of SEA staff in providing technical assistance and opinions on policy options,
- participants involved in planning meetings, such as central office administrators, principals, teachers, parents, and students,
- nature of planning meetings, including number of meetings held and the substance of the meetings held,
- identification of key decision-makers in the planning process, and
- time involved in the planning process.

4.2.3 Analytic Techniques

Documentation of the application and planning process provides the opportunity to explain the effects of the selection and planning on the allocation changes and program delivery. In identifying manipulable variables associated with allocation policy and program delivery, other districts can be guided in their planning efforts. Data will be analyzed using case study methods. In addition, simple frequency distributions and crosstabs may be presented for variables of interest, e.g., number of planning meetings attended by type of participant. Finally, districts will be classified on such variables as "authority" vs. "collective" application/planning processes. We will then explore the relationship between these variables and changes in allocation policy and/or other study outcomes.

Chapter 5

ALLOCATION POLICY


The Setting for the Demonstration A
The SEAs
The LEAs
The Schools
Allocation Policy C
Eligibility Criteria
Distributive Policy
Program Delivery D
District Level
– Program Descriptions
– Services Delivered by Specialists
School Level
Student Experiences E
Instructor
Support Services
Student Achievement G
Reading
Mathematics
The Application/Planning Process B
Characteristics of Students Served F
Sex
Ethnicity
Achievement
SES
Community Response H
Title I Parents (including PAC members)
Citizens in general
Professionals

KEY

- - - - - - Links to be analyzed conceptually

———— Links to be analyzed statistically for full range of districts

··········· Links to be analyzed statistically, where possible, for a subset of districts

5.0 ALLOCATION POLICY

5.1 Dimensions of Allocation Policy

The fundamental independent variable in our analysis is district allocation policy. We will analyze policy for each year. We are, of course, especially concerned with changes in policy. The allocation policy is fundamental because it is the starting point for any of the other change processes which might take place in the districts and because it is that aspect of the Demonstration which is the subject of legislation and federal policy.

For analytic purposes, there are two major dimensions of allocation policy as we have described it in Part I. First, there is policy with regard to the determination of eligibility and targeting. We have incorporated both as "eligibility policy." Second, there is policy with regard to the distribution of resources--what we have referred to as "distributive policy."

As indicated in Section 3.0, the design of the research is such that analysis can be done within each site. Obviously, though, we will want to contrast the policy options represented by different LEAs. Thus, the two-step approach will be to conduct statistical analyses on the effects of policy changes within sites and then to contrast the results for different sites. The two most crucial cross-site comparisons will be LEAs which have chosen different school eligibility policies and LEAs which have introduced different magnitudes of change in their distributive policies.

Chart 5-1 summarizes the categorization of eligibility policies initiated by the LEAs to illustrate these comparisons. Alum Rock is classified among the direct-allocation LEAs, but the most significant change is the concentration and saturation of services in matched schools. Yonkers and Berkeley County are similarly varying the concentration of services among students. Houston is changing the distribution of services across schools.

CHART 5-1

SCHOOL ELIGIBILITY POLICY CHOSEN BY THE 13 LEAs IN THE NIE ESEA TITLE I DEMONSTRATION

POLICY	LEA
• Direct LEA to Student Allocation (Direct Allocation)	Adams County #12 Alum Rock Harrison County Mesa Newport Santa Fe Racine
• School Eligibility Based on Achievement Tests	Charlotte Winston-Salem
• School Eligibility Based on Poverty Plus Achievement	Boston Houston
• School Eligibility Based on Poverty	Berkeley County Yonkers

A second contrast which can be made with respect to eligibility policy is the degree of dispersion of Title I services relative to the proportion of students in the LEA who are poor. Table 5-1 repeats Table 2.6.3. This table illustrates the degree of dispersion of Title I services across schools relative to the number of Formula Eligible Students.*

With regard to distributive policy, we want to analyze three combined components: distribution of services across schools, distribution of services across students, and distribution of services among students within schools. We have established cut-off points for each of these components separately. The cut-offs are arbitrary but do indicate logical distinctions suggested by the data presented in Figure 2.9.1

---

*The analysis of dispersion of Title I services across schools, which was presented in Section 2.6, showed similar results for USOE Formula Eligible Students, SEA Formula Eligible Students, and LEA Formula Eligible Students.

TABLE 5-1

SUM OF PERCENTAGE SCALE DISCREPANCY SCORES FOR DISPERSION OF TITLE I SCORES ACROSS SCHOOLS AND CLASSIFICATION OF LEAs INTO DISPERSION TYPES

Sum of Percentage Scale Discrepancy Scores	LEA	Classification on Degree of Dispersion of Title I Services
103	Berkeley County, West Virginia	DISPERSED
97	Harrison County, West Virginia	
84	Charlotte, North Carolina	
70	Mesa, Arizona	
69	Santa Fe, New Mexico	
51	Winston-Salem, North Carolina	MODERATELY DISPERSED OR MIXED
34	Boston, Massachusetts	
33	Alum Rock, California	
30	Racine, Wisconsin	
24	Newport, Rhode Island	CONCENTRATED
20	Adams County, Colorado	
20	Houston, Texas	
12	Yonkers, New York	

and Table 2.9.2. Chart 5-2 combines these three components and locates the 13 LEAs in the 18 resulting cells. Some cells are empty, but all are shown so that the logical possibilities across the single dimensions are illustrated. This chart illustrates the basic comparisons which can be made with regard to changes in distributive policy or magnitude of change.

CHART 5-2

CHANGES IN THREE DIMENSIONS OF DISTRIBUTIVE POLICY FOR THE 13 LEAs IN THE NIE ESEA TITLE I DEMONSTRATION

ESEA TITLE I RESOURCES DISTRIBUTION CHANGE:			
ACROSS SCHOOLS	ACROSS STUDENTS	AMONG STUDENTS WITHIN SCHOOLS	
		INCREASE	DECREASE
> 200% Increase	> 80% increase	Adams County Racine	Newport
	0-80% increase	Santa Fe	
	Decrease		
60-120% Increase	> 80% increase		
	0-80% increase		Alum Rock Winston-Salem
	Decrease		Mesa
< 40% Increase	> 80% increase	Harrison Co. Berkeley Co.	
	0-80% increase	Houston Yonkers	Charlotte
	Decrease		Boston

5.2 Research Objectives and Analytic Procedures

The above discussion has outlined some approaches to the conceptualization and measurement of allocation policies, relative to eligibility and distribution of services. In order to summarize our approach, we need first to define the different objectives and the levels at which we will conduct analyses, and then to illustrate the techniques that will be used within each of these.

The analysis of allocation policies has two objectives. First, we need to describe and document the nature of the intended allocation policies and their implementation. Such description and documentation must include the latter, since describing policy statements alone, and not their actual implementation would not be useful. Since we do not expect a perfect correlation between stated policy and implementation, however, and since we need to understand the impact of policy, we cannot merely study implementation. Thus, the tables shown in this chapter show stated policy with regard to the distribution of services across schools and students. They do not show actual distribution. Second, we need to analyze the effects of allocation policy on other outcomes of the Demonstrations.

The analytic objectives help us to distinguish between documenting the actual implementation of policy and analyzing causal links. In the former case, we are obtaining independent empirical estimates of the implementation of policy. In the latter case, we are examining the impact of policy which we have already documented. Referring to the analytic model, the implementation analyses are part of the documentation of allocation policy (Group C). ·The effects on other outcomes are represented by the various linkages in the model (CD, CE, etc.). The analyses are sequential. First we analyze the relationship between policy and implementation. Subsequently, we analyze the relationships going from policy to implementation to effects. Thus, the analysis of implementation will involve primarily the use of data from Class Rosters and Principal Questionnaires to determine if the number actually served is comparable to policy statements. This link between policy and implementation will also be studied with site descriptive information from documents and interviews. If there are discrepancies between states policy and implementation, we will attempt to explain why and will use implementation data to analyze outcomes or effects.

There are three levels at which each of the above analytic objectives will be studied: the district level, the school level, and the student level. Chart 5-3 summarizes the analytic objectives, the levels of analysis, and the analytic procedures for the study of allocation policy: distributive policy and eligibility criteria. Several different types of analyses will be conducted. In each of them, stated allocation policy will be measured in terms of the public record at the district level. In each, the level of analysis determines the number of cases available for studying implementation and changes associated with district policies. Analyses will be done within districts, and thus the relevant number of cases will vary.

Within districts, analyses will be simply descriptive. Marginal distributions, proportions, measures of central tendency, and measures of dispersion will be reported. Across districts, allocation policy will be analyzed by means of categorizations, typologies, and continuous measurements. Then, comparisions will be made among implementation results and the effects of allocation policy on other characteristics of the Demonstration districts.

Across districts, the statistical techniques to be employed in the comparative analyses are unusual in some respects. They are not unprecedented, however. The study requires comparative analyses done on a small number of cases with a) policy measurements on the same number of cases, and b) other intervening and dependent variable measurements on a relatively

CHART 5-3

ANALYTIC TECHNIQUES FOR THE STUDY OF DEMONSTRATION ALLOCATION BY ANALYTIC OBJECTIVE AND ANALYTIC LEVEL

		Demonstration Allocation Policy*	
Analytic Objective	Analytic Level	Distributive Policy	Eligibility Criteria
Measurement of Policy Implementation	School District	Contingency Tables	Contingency Tables
	Schools	Anal. of Variance Regression Analysis Path Models	Anal. of Variance Regression Analysis Path Models
	Students	Anal. of Variance Regression Analysis Path Models	Anal. of Variance Regression Analysis Path Models
Analysis of Effects of Policy and Implementation on Other Characteristics and Outcomes	School District	Contingency Tables	Contingency Tables
	Schools	Anal. of Variance Regression Analysis Path Models	Anal. of Variance Regression Analysis Path Models
	Students	Anal. of Variance Regression Analysis Path Models	Anal. of Variance Regression Analysis Path Models

---

*Both columns in this table show exactly the same analytic techniques. We have retained both columns because adjustments can be expected in each column separately, based on usable data.

large number of units within these comparative cases. The most frequent precedents for such analyses are in the area of urban public policy.*

Varying approaches have been used by the researchers cited in the previous footnote. However, for the purposes of this plan, we can best present the alternatives as two generic types.

The first generic type can be described as simple comparative, and involves contingency tables similar to a collapsed version of Chart 5-2. This type is objective and quantitative, without being statistical in the sense of providing probability estimates and confidence intervals for suggested findings. It is appropriate particularly for analyses of district level data, but can also be used for school and student level data aggregated to the district level. The simple comparative type of analysis is particularly advantageous for exploratory analyses related to both the nature of allocation policies and their effects on other characteristics of the Demonstration districts. It aids the analyst as well as the reader in classifying districts within a contingency table. It also helps generate alternative hypotheses or inferences about the operation of processes, which can then be further analyzed.

Subsequent to use of the first approach, a second generic approach will be employed in order to study the effects of district level allocation variables on schools, students, and parents: least squares statistical models. Analysis of variance techniques can be used, provided districts are logically grouped in such a manner that the assumptions of this method are met. Another, probably more useful method for testing our analytic model, is general regression or path analysis. Taking this approach, categorical variables can be introduced as dummy variables and continuous variables can be introduced as such, if the results are cautiously interpreted.

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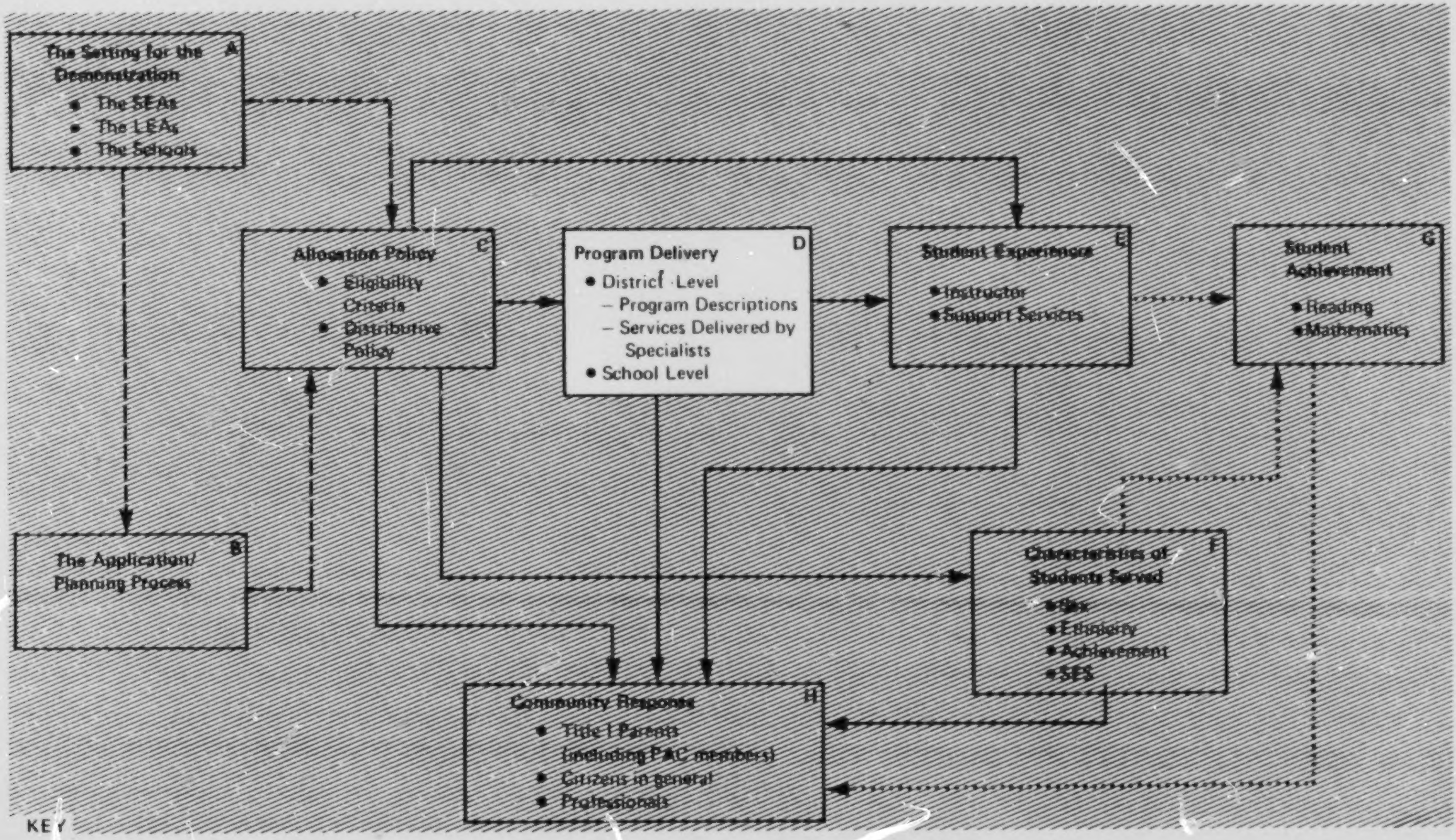
*Howard Schuman and Barry Gruenberg, "The Impact of City on Racial Attitudes," American Journal of Sociology, 1976, 76.

Peter H. Rossi, Richard A. Berk, and Bettye K. Edison, The Roots of Urban Discontent (New York: John Wiley and Sons, 1974).

Robert L. Crain, Morton Inger, Gerlad A. McWorter, and James J. Vanecko, The Politics of School Desegregation (Chicago: Aldine Press, 1968).

James J. Vanecko, Robert L. Crain, et al., "Community Reaction to School Desegregation," in Design for a National Longitudinal Study of School Desegregation (Santa Monica, CA: The Rand Corporation, 1974).

Chapter 6
PROGRAM DELIVERY


The Setting for the Demonstration
A
• The SEAs
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• Distributive Policy
Program Delivery
D
• District Level
– Program Descriptions
– Services Delivered by Specialists
• School Level
Student Experiences
E
• Instructor
• Support Services
Student Achievement
G
• Reading
• Mathematics
Characteristics of Students Served
F
• Sex
• Ethnicity
• Achievement
• SES
Community Response
H
• Title I Parents (including PAC members)
• Citizens in general
• Professionals

KEY

– – – – Links to be analyzed conceptually

——— Links to be analyzed statistically for full range of districts

· · · · · · · · · Links to be analyzed statistically, where possible, for a subset of districts

6.0 PROGRAM DELIVERY

One probable outcome of Title I reallocation is a change in Title I program delivery: in the goals, content, organization, or staff of a program. This relationship is shown in the Analytic Model as link CD. It is likely that if the reallocation results in an increased number of Title I schools and/or students, changes in the Title I program will be made to accommodate this increased coverage. In order to guarantee that program changes resulting from the reallocation are identified, it is important to describe the Title I programs in each district in detail and from a number of perspectives.

It is also important to describe the other compensatory programs which operate in each district. Title I does not exist in isolation, but is usually part of a larger system of compensatory education. Change in one part of the system may affect the other parts. A change in Title I may lead to similar changes in other programs, insofar as the programs are centrally coordinated. A change in Title I may lead to contrasting changes--a decrease in some aspect of Title I may lead to a corresponding increase in another program, particularly if the total program funding remains constant. The research question to which this chapter is directed, then, is: "How do Title I and other compensatory programs change as a result of the Title I reallocation?"

In answering this question, all other compensatory programs will not be treated equally. Close attention will be paid to state-funded compensatory programs, since these generally provide non-categorical aid, share the same goals and target groups as Title I, and are most likely to be affected by Title I allocation changes. Only an overview will be given of other compensatory programs. Similarly, an overview will be presented of all types of compensatory activities, but only language arts and mathematics instruction will be described in depth. Three different approaches will be used, each of which gives a different perspective on program delivery.

The first approach will be to describe programs from the perspective of program administrators. The emphasis here will be on compiling a comprehensive picture of program organization, goals, and delivery patterns for each district separately and for districts as a whole. Although this approach will detail each district's unique program structure in order to establish a baseline for the examination of change, the major focus will be on cross-district comparisons and the identification of common patterns of program delivery.

The second approach will be to obtain a description of the compensatory instruction delivered to students from one group of persons who actually provide that instruction, instructional specialists. There are several reasons for augmenting the description of program delivery obtained from program administrators with one provided by program deliverers. First, there is often a gap between programs as they are planned and programs as they are implemented. The program described by the designer may be very different from the one described by the implementer. Second, even when design and implementation are closely matched, program implementers can often provide a more detailed picture of program content and instructional strategies than is usually obtainable at a higher level. Finally, obtaining information from program deliverers allows us to estimate variability within a program.

The third approach will be to use the school as a unit for describing compensatory programs. This approach is useful both in identifying variation from school to school within a program and in providing an overview of the range of compensatory services a single school might offer. In the remainder of this chapter each of these approaches is discussed in detail.

6.1 Program Descriptions

The goal of the program description approach is to provide a comprehensive and detailed picture of the compensatory programs in each district in the Demonstration. Such descriptions are important as a baseline for identifying changes which may result from the Title I reallocation and for furthering our understanding of district similarities. This will facilitate development of cross-district classification schemes. Unlike the other two approaches to describing program delivery, this approach attempts to present the objectives and educational strategies of each district's compensatory programs in the district's own terms rather than in the terms of a standard set of categories imposed by the researchers.

Data for this approach will not be gathered with standardized questionnaires or highly structured interviews, but will be obtained from a variety of sources which vary from district to district. Since the districts have already published a great deal of information on their programs, the program descriptions effort will begin with an examination of the documents currently on file and gathered during the late spring and early summer of 1976. During the fall, each Abt District Research Coordinator (DRC) will be asked to verify this information and to obtain any missing information from the appropriate program administrative staff in his or her district.

The resulting descriptions will be primarily qualitative and narrative. Descriptive statistics, such as measures of central tendency and dispersion will be provided for variables of interest, but tests of statistical significance will not be employed. Graphic presentations will be used as appropriate.

6.1.1 Within-District Program Descriptions

First we will provide a description of each district's program organization during the planning year (1975-76). Title I programs, other federally funded compensatory programs, state and local compensatory programs, and a discussion of the extent of overlap among the different compensatory education programs in terms of schools served will also be discussed.

6.1.1.1 Program Organization

An organizational chart of each district's compensatory education programs will be included as a means of giving the reader a graphic understanding of the various funding sources operating within each district. The organizational chart will identify the number of district program units and the person(s) responsible for each by funding source, grade level, and program component. A program component is that set of activities and services which districts identify as a unique subset of their overall program. A program unit is the least common element within a program component which can be identified as having a distinct staffing patter, framework, or goal. The organizational chart will summarize the number of schools, centers, and/or homes served by each program unit.

Figure 6-1 presents an example of an organizational chart, showing the organizational structure of the compensatory education programs in one of the Demonstration districts. As shown here, both federally and state-funded programs are present in this district. The federally funded programs are the following:

Title I ESEA, with three program components: Pre-school, Kindergarten Follow Upward (KFU) and Reading/Language Arts (R/LA);

Title VII, with three components: Reading, Mathematics, and Enrichment; and

Title I CESA - Migrant Education.

The "Special Education Needs" Program (SEN) is the sole state-funded program.

The organization chart allows us to identify variability in program structure within and across districts. As indicated in Figure 6-1, some programs are designed with only one grade span in mind, e.g., Preschool. Others vary by grade, e.g., Reading/Language Arts. Some programs have single directors (Title IV) while others do not (Title I). Certain programs such as Preschool are relatively homogeneous and are therefore designated single program units. Others are heterogeneous. The Kindergarten Follow Upward (KFU) program, for example, has different staffing patterns in different schools and is viewed as two program units labelled unit 2 and 3 in Figure 6-1. The Reading/Language Arts program consists of three different components (Program Units 4, 5, and 6) at different grade levels.

Descriptions of the staffing pattern of each program unit will accompany the organization chart. The following diagram (Figure 6-2) is an example of displayed staffing pattern information. Here, each group leader supervises six instructional aides and one parent helper. Each aide works in one of six classrooms offering classroom instruction, while the parent helper visits the homes of Title I students in each group.

In contrast, the KFU program has two distinct staffing patterns, shown as Program Units 2 and 3 in the organizational chart. Figure 6-3 illustrates this distinction.

Figure 6–1
ILLUSTRATIVE ORGANIZATION CHART FOR ONE DEMONSTRATION DISTRICT

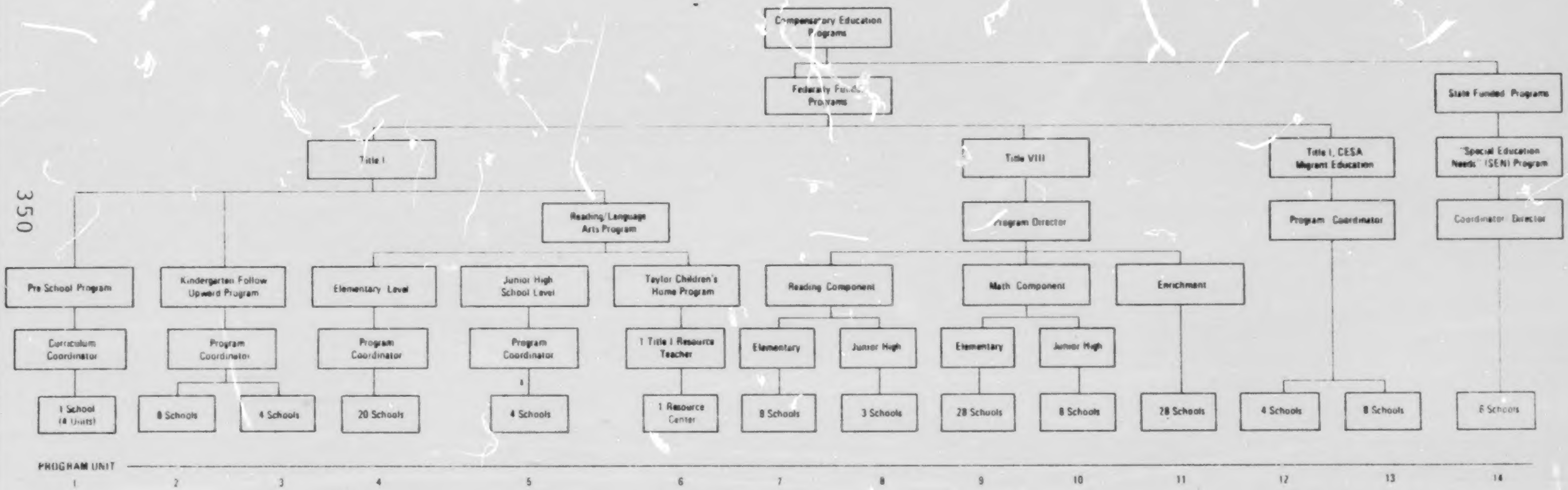

Compensatory Education Programs
Federally Funded Programs
State Funded Programs
Title I
Title VIII
Title I, CESA Migrant Education
"Special Education Needs" (SEN) Program
Reading/Language Arts Program
Program Director
Program Coordinator
Coordinator Director
Pre School Program
Kindergarten Follow Upward Program
Elementary Level
Junior High School Level
Taylor Children's Home Program
Reading Component
Math Component
Enrichment
Curriculum Coordinator
Program Coordinator
Program Coordinator
Program Coordinator
1 Title I Resource Teacher
Elementary
Junior High
Elementary
Junior High
1 School (4 Units)
8 Schools
4 Schools
20 Schools
4 Schools
1 Resource Center
8 Schools
3 Schools
28 Schools
8 Schools
28 Schools
4 Schools
8 Schools
6 Schools
PROGRAM UNIT
1
2
3
4
5
6
7
8
9
10
11
12
13
14

FIGURE 6-2

STAFFING PATTERN FOR PROGRAM UNIT 1

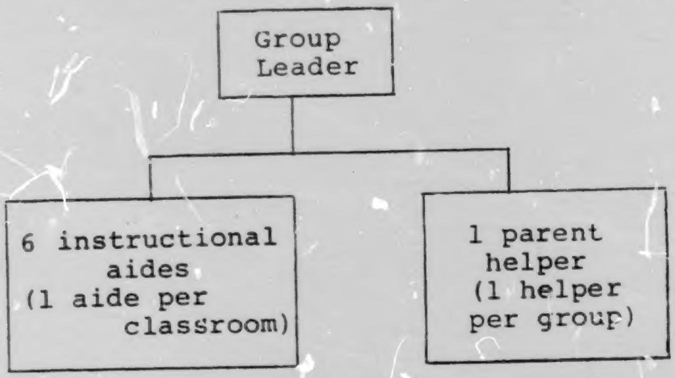
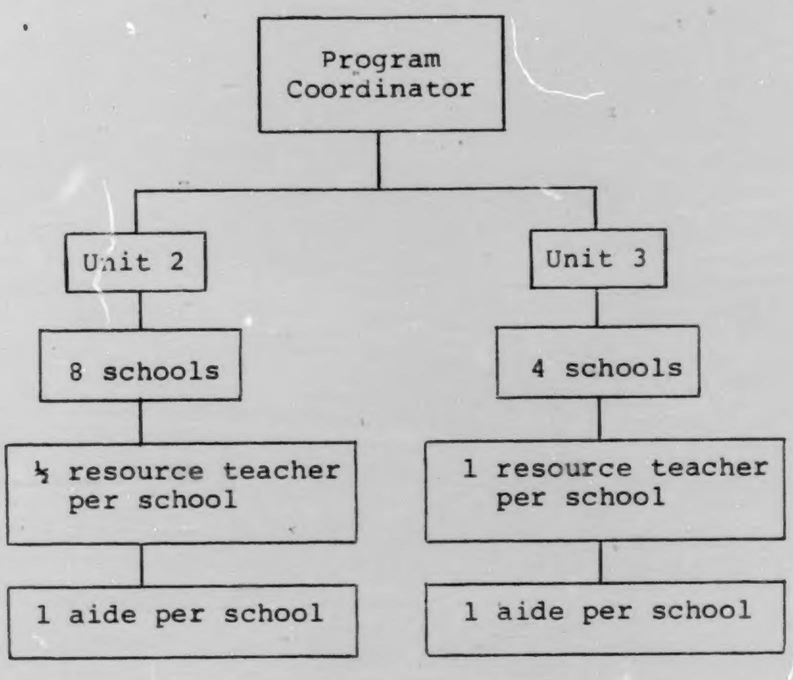

Group Leader
6 instructional aides (1 aide per classroom)
1 parent helper (1 helper per group)

FIGURE 6-3

STAFFING PATTERNS FOR PROGRAM UNITS 2 AND 3


Program Coordinator
Unit 2
Unit 3
8 schools
4 schools
½ resource teacher per school
1 resource teacher per school
1 aide per school
1 aide per school

In all, there are twelve schools served by the program. The eight schools in program unit 2 are staffed by four resource teachers and eight aides; each teacher is responsible for two schools and one aide is stationed at each school. In the four schools of program unit 3, one resource teacher and one aide are stationed at each of the four schools. The two patterns display the program assignment of resource teachers based on the Title I enrollment at each school.

6.1.1.2 Program Variables

More detailed descriptions of the Title I and state-funded programs will be presented using the variables listed below.

1. Goals and Objectives

   We will examine both the overall goals of a program, e.g., to provide compensatory services to underachieving students or to students from poverty or target areas, and the more specific goals, e.g., to improve reading achievement.

2. Population Served

   Basic statistics defining the population served by each program will include student enrollment, grade span, and number of schools participating in a program.

3. Program Activities

   A summary of both the instructional and support services offered by each program will be presented.

4. Staffing

   The types of staff utilized in each program will be presented in full-time equivalents (FTEs). Table 6-1 provides an example of such a tabular presentation, summarizing the staffing patterns for two sample districts. As can be

TABLE 6-1

FULL-TIME EQUIVALENT STAFF MEMBERS IN TITLE I PROGRAMS FOR TWO ILLUSTRATIVE DISTRICTS BY STAFF POSITION

Staff	School District	
	Berkeley County	Harrison County
I. Instructional:		
A. Teachers: Pre-Kindergarten	6.5	
Kindergarten		
Elementary		
Secondary		
B. Aides: Instructional	33.0	25.0
Other		
C. Specialists: Reading		19.0
Math		
Other (Art, Music)		
II. Administrators/Supervisors	.75	1.0
III. Support Service:		
A. Professional	1.5	1.5
B. Para-professional		
Total	41.75	46.5

seen, one district primarily uses aides while the other uses reading specialists and aides to provide compensatory instruction.

5. Staff Training

Emphasis here will be on the types of staff for whom training programs are provided, the number of staff members who actually receive training, and the average amount of training per staff member. In addition, there will be a discussion of content areas covered and training strategies, such as workshops and demonstrations.

6. Instruction

Our discussion of a program's instructional component will center on such variables as:

- content of instruction (subject matter)
- individualization of instruction
- scheduling of instruction (frequency, duration)
- location of instruction (pullout vs. in-class)
- utilization of staff
- materials and supplies used

We will attempt to determine whether there is an instructional policy for the program as a whole, or whether variations exist among program components or individual grades and schools. Again, reference will be made to the organizational chart to elaborate on similarities and differences between the various levels of program structure.

7. Parental Involvement

Since the vast majority of both federal and state funded programs encourage a high degree of parental involvement, we shall examine both the type and degree of parental involvement in the various programs. First, we will describe formal parent involvement in compensatory programs through an examination of the structure and activities of the Parent Advisory Committee (PAC). We will describe the composition of the district-wide PAC, the frequency of meetings, average attendance at meetings, and degree of participation of PAC in various aspects of decision-making. We will also describe other program activities which are available for parents in general.

6.1.1.3 Program Overlap

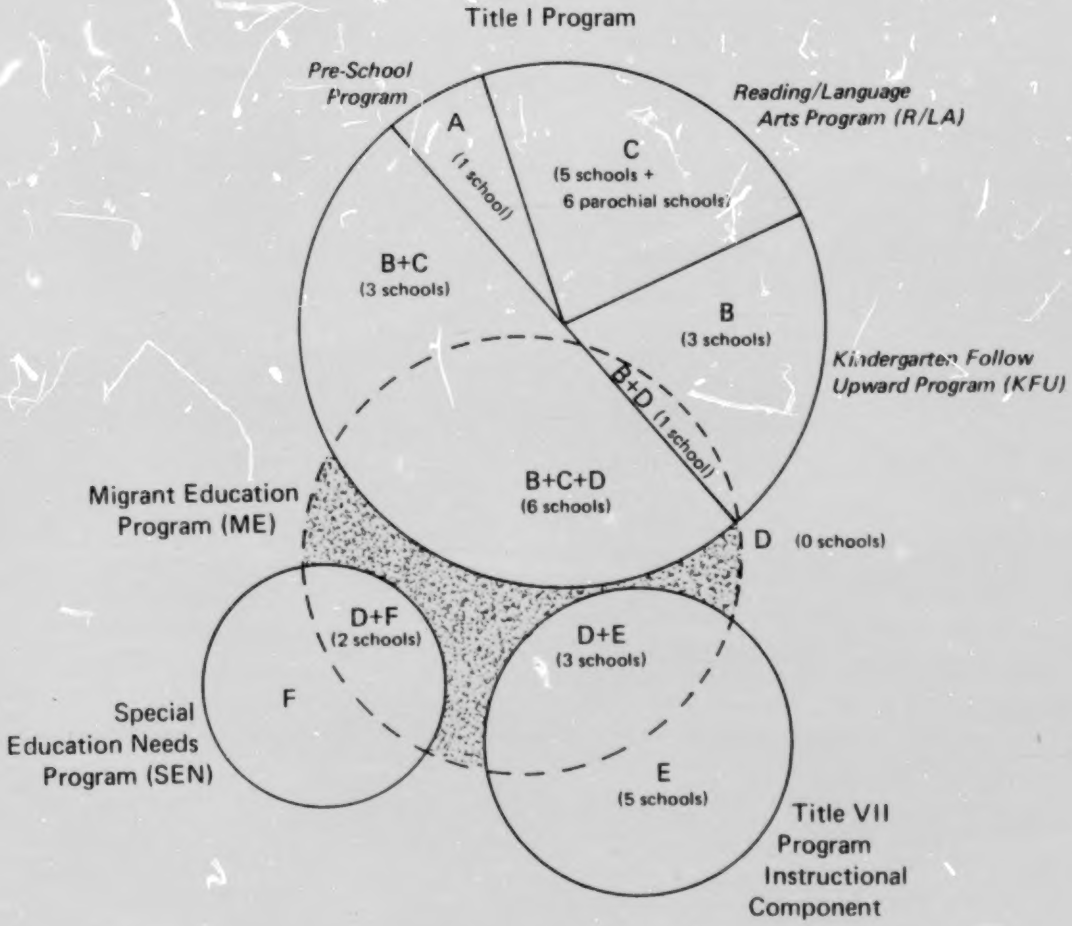
As schools gain or lose Title I services over the course of the Demonstration, it is possible that other compensatory programs will also be moved from school to school to reduce the impact of the changes. The program descriptions will also focus on the overlap of the several compensatory program components across schools within a district.

The graphic display of program overlap among schools in year one (Figure 6-4) is a useful descriptor and baseline for understanding program shifts in years two and three. Each of the circles is drawn to scale, based on the number of schools represented. Overlap is graphically displayed through common sectors or segments of circles.

6.1.2 Cross-District Program Description

Important though the within-district descriptions are as a baseline for identifying changes which might result from changes in allocation policy, we are less interested in

Figure 6-4
COMPENSATORY PROGRAM OVERLAP
IN ONE ILLUSTRATIVE DISTRICT



Title I Program
Pre-School Program
A
(1 school)
C
(5 schools + 6 parochial schools)
Reading/Language Arts Program (R/LA)
B+C
(3 schools)
B
(3 schools)
Kindergarten Follow Upward Program (KFU)
B+D (1 school)
B+C+D
(6 schools)
Migrant Education Program (ME)
D (0 schools)
D+F
(2 schools)
F
D+E
(3 schools)
Special Education Needs Program (SEN)
E
(5 schools)
Title VII Program Instructional Component

A = Title I, Pre-School Program

B = Title I, Kindergarten Follow Upward Program

C = Title I, Reading/Language Arts Program

D = Migrant Education Program

E = Title VII Program

F = Special Education Needs Program

describing individual districts than in identifying patterns which might be found across districts. Our primary purpose, then, is to use the rich program descriptors available for each district to develop patterns of program delivery. The within-district descriptions will rely heavily on the districts' own terminology and organizational frameworks. The cross-district description will utilize a set of categories which parallel the variables introduced above, but are common to all districts. This will allow us to group districts on dimensions which might reflect changes related to the reallocation of funds.

The variables used here will include, but not be limited to:

- types of staff who provide services
  -specialists vs. classroom teachers
  -professionals vs. paraprofessionals
- content of services
  -wide vs. narrow range of services
- instructional patterns
  -location:
  -focus on materials vs. staff
  -direct instruction vs. training and supervision

Similar to the within-district descriptions, the data for cross-district comparisons will be predominantly qualitative, and no statistical analyses will be performed. We will count staff members in different categories and may use budget allocations to assign values to different parts of the program. We may, for example, consider the amount of money allotted to instructional services in comparison to the amount given to support services, or the proportion of salaries allocated for staff who work directly with students versus those who only administer the program or supervise others.

6.1.3 Proposed Program Changes

Finally, we will describe the specific program changes which each district proposes to make during the implementation years. Detailed changes in the district allocation policy are discussed in other sections of this analysis plan. We will endeavor to link such changes to the programmatic changes described here. We will further attempt to determine whether programmatic changes are made independently or concomitantly with changes in allocation policy. Our intention is to describe planned changes by examining the variables outlined above. The organization and overlap charts will also be used to describe proposed changes.

In subsequent years, the program description approach will address the nature and implications of the actual changes made under the Demonstration in individual programs and throughout whole districts. Emphasis again will be on the identification of cross-district patterns.

6.2 Services Delivered by Instructional Specialists

6.2.1 Research Objectives

Within each compensatory program described at the district level, there is undoubtedly a certain amount of variation in the services actually delivered to students. In order to measure this variation, and thereby provide a more accurate picture of compensatory programs, the program descriptions gathered will be augmented by data from instructional specialists.

Although instructional specialists are not the only persons who provide compensatory services, they are central to program delivery in a sizeable proportion of the Demonstration districts. Their work, therefore, merits our attention. There are also practical advantages to focusing on services delivered by specialists: the population of all providers of compensatory services--e.g., specialists, teachers, aides, volunteers--varies from district to district, making it difficult to select a sample of providers to represent all programs. The population of specialists in any district, on the other hand, is relatively discrete and therefore is more easily identifiable. To the extent that specialists are central providers of services in a given district, a description of the instruction they provide represents a useful supplement to the qualitative descriptions outlined in section 6.1. In those cases where specialists are not the primary providers, program descriptions will be limited to those qualitative descriptions.

The question to be addressed with this approach is: Does the instruction provided by specialists in different compensatory programs vary within and across districts, and does it vary over time? Again considering the situation of an increased number of schools and/or students served by Title I, a number of changes in the specialists' utilization of time are possible. Specialists may serve more students by teaching shorter periods. They may shift their work from direct instruction to the supervision of other, possibly less expensive staff. Or, if they work in more schools, they may spend more time in traveling. Their instructional strategies may also change. If they have to work with larger groups of students, for example, their instruction may be less individualized. The research question will be answered by examining the specialists' use of time and the ways in which they provide instruction.

6.2.2 Design

The design for the analysis of services delivered by specialists is shown in Table 6-2. Within any one year, the design has only two factors: district (sixteen levels) and compensatory funding source. Compensatory funding source will have four levels: Title I, other federal, state, and local. Although standard categories will be used for funding source, note will be made in each district of the names of programs comprising each category. Funding sources

TABLE 6-2

DESIGN FOR ANALYSIS OF PROGRAM DELIVERY BY SPECIALISTS

	DISTRICT BY YEAR		
	1975-76	1976-77	1977-78
Compensatory Funding Source	District	District	District
	1, 2, 3, ... 16	1, 2, 3, ... 16	1, 2, 3, ... 16
Title I			
Other Federal			
State			
Local			

for districts where instructional specialists are not central providers will be excluded from these analyses. Thus, some of the design cells will be empty.

6.2.3 Data Sources and Variables

There are two data sources for the analysis of services delivered by specialists: the Instructional Schedule and the Program Description Modules.

6.2.3.1 Instructional Schedule

The primary objective of the Instructional Schedule is to estimate the amount of time per week specialists spend instructing children. The Schedule will be completed for a typical·work week by all compensatory language arts and mathematics specialists in each of the Demonstration districts that use specialists. The first set of variables which can be obtained from the Instructional Schedule provides an overall breakdown of the way specialists spend their time:

- Number of hours per week employed by funding source,
- Proportion of time spent on instruction by funding source, and
- Proportion of time spent on other tasks by funding source.

The second set of variables provides a description of how the instructional time is spent in each funding source category. The basic unit for most of these variables is an instructional period. The total data set for each specialist is the number of instructional periods per week spent in one funding source program. All variables in both sets can be constructed directly from items on the Schedule. The variables include:

- Number of instructional periods per week,
- Average length of an instructional period,
- Content of instruction,
- Size of group taught,
- Grade level(s) of students taught, and
- Role of the specialist in instruction (teach vs. supervise and teach)*

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*Specialists who never teach children directly (i.e., those whose job is to supervise or train others) will not be included in the analyses of these variables, since their role cannot legitimately be labelled as instructional.

6.2.3.2 Program Description Modules

The Program Description Modules provide a more detailed description of the compensatory language arts and mathematics instruction provided by specialists. These two subjects were chosen for study because they are the areas in which most Title I effort is concentrated. The Modules will be filled out by all language arts and mathematics specialists in a district. In order to obtain an accurate description of how specialists provide instruction, the Modules ask about instruction provided to a specific group of students, rather than asking about the specialists' teaching in general. Data from the Instructional Schedule will be used to identify the appropriate group and the time at which it meets. The variables from the Program Description Modules can be divided into two categories:

Setting of instruction:

- Person who provides instruction
- Location of instruction
- Number of children meeting together
- Amount of instruction per week
- Length of time in program

Strategies for instruction:

- Details of teacher's lesson plans
- Means of assessing students' performance at the beginning of the year
- Existence of performance objectives
- Basis for assigning lessons
- Instructional groupings
- Use of materials
- Means of assessing students' progress
- Extent of individualization

The same set of variables will be used to describe both language arts and mathematics instruction. All variables except the extent of individualization can be taken directly from the questionnaire items. The individualization variable(s) will be developed through a combination of judgmental and empirical scale construction with items pertinent to the scale selected judgmentally. The homogeneity of this scale will be assessed using cluster and/or factor analytic techniques. Finally, item weights will be assigned, the scale(s) scored, and internal consistency assessed using coefficient alpha.

6.2.4 Analytic Procedures

6.2.4.1 Descriptive

The first step of the analysis will be to compute descriptive statistics for all variables by district and funding source category. Means and standard deviations will be computed for continuous variables and frequency distributions for categorical variables. (Table 6-3 shows the format for presenting these computations.) We will also examine crosstabs for selected combinations of variables such as length of instructional period by size of group taught, or by person providing instruction.

6.2.4.2 Comparative

In addition to describing the instruction delivered by specialists, we want to compare the instruction provided to determine whether specialists in different compensatory funding source categories provide significantly different instruction. The comparative analyses will include two factors: district (16 levels) and funding source (Title I, Other Federal, State, and Local). The strategy chosen for testing for significant effects depends on the response scale of the variable being analyzed. For categorical variables (such as persons providing instruction), Chi-square analyses will be performed. For

TABLE 6-3

LENGTH OF INSTRUCTIONAL PERIOD AND NUMBER OF STUDENTS TAUGHT PER INSTRUCTIONAL PERIOD IN 1975-76 BY COMPENSATORY FUNDING SOURCE*

Compensatory Funding Source	Length of Instructional Period	Number of Students Taught Per Instructional Period
Title I	$\bar{X}$ S.D.	$\bar{X}$ S.D.
Other Federal	$\bar{X}$ S.D.	$\bar{X}$ S.D.
State	$\bar{X}$ S.D.	$\bar{X}$ S.D.
Local	$\bar{X}$ S.D.	$\bar{X}$ S.D.

*This design is shown for one district only. Analyses will include district as a factor.

continuous, ordered, or dichotomous variables (such as length of instruction), an unweighted means analysis of variance will be used. Since there will be districts which do not have compensatory programs using specialists in all funding categories, the design for the analysis will be unbalanced. As a result, only the main effects of district and funding source and not their interaction can be estimated. This analysis tends to be more conservative than a balanced analysis of variance because the interaction enters the error term. Post hoc comparisons of the Tukey* or Scheffe** type will be used to test the significance of the differences between Title I and other funding sources. Estimating changes in specialists' instruction across years of the Demonstration requires the addition of year as a factor in the analyses.

6.3 Distribution of Programs Across Schools

6.3.1 Research Objectives

Thus far we have looked at compensatory services by funding source, essentially describing one program at a time. Another way to approach the question of the effect of reallocation of Title I funds on program delivery is to describe the services as they exist in the schools. Program descriptions at the school level are necessary additions to descriptions by program administrators and instructional specialists for several important reasons.

First, schools may have combinations of compensatory services from several programs which are difficult to describe accurately at a higher level. Such combinations are indicators of the way resources are distributed in a district, and since resource distribution may be affected by the reallocation of Title I funds, we are interested in examining it. It may be that the total amount of compensatory services delivered to different types of schools in the Demonstration changes during the implementation years. It may also be that the amount of program overlap--the extent to which programs from different funding sources serve the same schools and where they do, the extent to which they serve the same grades and the same functions--changes.

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*William L. Hays, Statistics for the Social Sciences (New York: Holt, Rinehart and Winston, 1973), pp. 605-612.

**B.J. Winer, Statistical Principles in Experimental Design (New York: McGraw-Hill, 1971), p. 198.

Second, the services delivered and the mode of delivery within a program may vary from school to school. Analyzing this possible source of variation in the language arts and mathematics components of the Title I and State Compensatory programs should increase the accuracy of the descriptions of these programs.

Third, school-level descriptions are necessary adjuncts to those provided by program administrators and specialists because some aspects of compensatory education are organized within schools and therefore can only be described at that level. We are particularly interested here in examining services provided to adults through compensatory programs, specifically staff development and parent involvement because both might be affected by the reallocation. For example, if a district decides to deconcentrate the Title I program, it may increase the training provided to staff members so that more people will have the skills to instruct the increased number of students.

These reasons for describing programs at the school level can be translated into three research questions:

1. Are there differences among types of schools in the total compensatory services they receive and in the overlap of programs, and does the distribution of resources change during the Demonstration?

2. Do types of schools differ in their programs for staff development and parent involvement and do these programs change over time?
3. To what extent do schools vary in the Title I and state funded compensatory services they offer, and does this variation change during the implementation of the Demonstration?

6.3.2 Design

The basis of the design for answering the first two of the three school-level research questions is type of school. In all districts there will be at least two types of schools: schools which are currently (1975-76) receiving Title I funds and schools which will receive Title I funds during the implementation years of the Demonstration (1976-1977 and 1977-1978). In some districts there may also be a third type: schools which never receive Title I funds. For the analyses of staff development and parent involvement, district and school type are the only factors in the design, as shown in Table 6-4. For the analyses of the distribution

TABLE 6-4

DESIGN FOR ANALYSES OF COMPENSATORY STAFF DEVELOPMENT AND PARENT INVOLVEMENT

	DISTRICT BY YEAR		
	1975-76	1976-77	1977-78
School Type	District 1, 2, 3...16	District 1, 2, 3...16	District 1, 2, 3...16
Schools currently receiving Title I			
Schools receiving Title I during implementation years only			
Schools never receiving Title I services			

of compensatory activities, compensatory funding source will be added as a third factor. This design for one district is shown in Table 6-5.

TABLE 6-5

DESIGN FOR ANALYSES OF THE DISTRIBUTION
OF COMPENSATORY ACTIVITIES*

School Type	1975-76 Compensatory Funding Source				1976-77 Compensatory Funding Source				1977-78 Compensatory Funding Source			
	Title I	Other Federal	State	Local	Title I	Other Federal	State	Local	Title I	Other Federal	State	Local
Schools currently receiving Title I												
Schools receiving Title I during implementation years only												
Schools never receiving Title I services												

*This design is shown for one district only. Analyses will include district as a factor.

For the remaining research question, the analysis of Title I and state-funded compensatory programs, the design for the first year is based on grade span rather than school type: grades 1-3, 4-6, 7-8. This design is shown in Table 6-6. Clearly, the breakdown by grade span can only be done for schools and districts in which programs exist in more than one span.

6.3.3 Data Sources and Variables

All data for the school-level program description will be gathered through the Principal Questionnaire. This instrument has several purposes but the major one is to obtain a comprehensive description of the compensatory services in a school. The questionnaire consists of one form covering

TABLE 6-6

DESIGN FOR DESCRIBING TITLE I AND
STATE-FUNDED COMPENSATORY PROGRAMS

	DISTRICT BY YEAR		
	1975-76	1976-77	1977-78
	District	District	District
Grade Span	1, 2, 3...16	1, 2, 3...16	1, 2, 3... 16
1-3			
4-6			
7-8			

school and principal background information and asks for an overview of compensatory activities by funding source. It also requests a description of compensatory staff development and compensatory parent involvement activities. The overview of compensatory activities is divided into instructional and support activities focused on activities for students. The staff development items do not specify funding source and the parent involvement items focus on Title I. This form is to be completed by all elementary school principals in the Demonstration districts.

The Principal Questionnaire also has two supplements, one for Title I and one for state-funded compensatory programs. (Principals only complete the supplements for the program(s) operating in their school.) Each supplement asks for the same information about the compensatory language arts and mathematics instruction provided by Title I and state-funded compensatory programs. Space is provided for describing program differences among different grade spans.

The variables for the school-level program descriptions can be grouped under four headings: overview of compensatory activities for students; (which includes total services delivered and program overlap); Title I and state-funded compensatory program descriptions; compensatory staff development; and compensatory parent involvement.

Overview of compensatory activities for students

- Number of students receiving any compensatory service
- Type of instructional activity
- Type of support activity

The overview variables are taken directly from questionnaire items.

Title I and State Compensatory Education

- Number of students participating by grade level
- Timing of services (i.e., during summers or school year; during regular school day or outside it)
- People providing instruction
- Class size
- Location of instruction
- Amount of instruction
- Grouping methods
- Group for regular instruction

The analyses of Title I and state-funded compensatory programs will be done separately, and language arts instruction will be separated from mathematics instructions, but all analyses will include these same variables. The variables, which will be taken directly from questionnaire items, will be analyzed singly and in combinations such as:

- People providing instruction by amount of instruction
- People providing instruction by grouping methods

Compensatory Staff Development

- Number of schools having special training (i.e., workshops, seminars and lectures) for compensatory education
- Initiators of that training (i.e., persons in school, from district office, from outside the district)
- For training initiated in the school:
    - Time of training
    - Training areas
    - People receiving training by amount of training
- Other types of staff development activities initiated in the school.

The variables are to be taken directly from items in the questionnaire.

Compensatory Parent Involvement

- Number of schools having Parent Advisory Councils (PACs)
- Frequency of PAC meetings
- Number of parents attending PAC meetings
- Responsibilities of the PAC
- Amount and type of parent involvement in compensatory activities outside the PAC

If a school has more than one PAC, the principal is asked to describe the Title I PAC.

6.3.4 Analytic Procedures

6.3.4.1 Descriptive

Descriptive statistics will be computed for all variables. Means and standard deviations will be computed for continuous variables and frequency distributions for categorical variables. Table 6-7 displays the format for presenting statistics for staff development and parent involvement, and Table 6-8 shows the format for the overview of compensatory activities data. The format for the Title I and state-funded compensatory programs will be like the format for staff development with grade span substituted for school type.

6.3.4.2 Comparative

The analysis strategies chosen for comparing compensatory programs at the school level depend first on the nature of the response scale of the variable being analyzed. Chi-square analyses will be used with categorical variables and some form of analysis of variance will be used with the continuous, ordered, or dichotomous variables. The form of the analysis of variance will depend on the design being used.

Analyses by School Type and by Grade Span. The analyses of school type, to be used with staff development and parent involvement variables, will use two factors for any one year of the Demonstration: District (thirteen levels) and school type (two or three levels).* The analyses by grade span, to be used with Title I and state-funded compensatory program descriptions, will also have two factors: district (thirteen levels) and grade span (three levels). For analyses of change over time in both designs, year will be added as a third factor.

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*All districts will be included in the design with two school types: currently Title I and Title I during the implementation years only. For those districts having a third school type--never Title I--the three-level design will also be used.

TABLE 6-7

FREQUENCY AND NUMBER OF PARENTS ATTENDING PAC MEETINGS BY TYPE OF SCHOOL IN 1975-76

School Type	Frequency of Meetings	Number of Parents Attending
Schools currently receiving Title I	% once or twice a year % every few months % once a month % more than once a month	$\bar{X}$ S.D.
Schools receiving Title I during implementation years only	% once or twice a year % every few months % once a month % more than once a month	$\bar{X}$ S.D.
Schools never receiving Title I services	% once or twice a year % every few months % once a month % more than once a month	$\bar{X}$ S.D.

TABLE 6-8

NUMBER AND PERCENT OF SCHOOLS PROVIDING COMPENSATORY READING INSTRUCTION IN 1975-76 BY FUNDING SOURCE AND SCHOOL TYPE

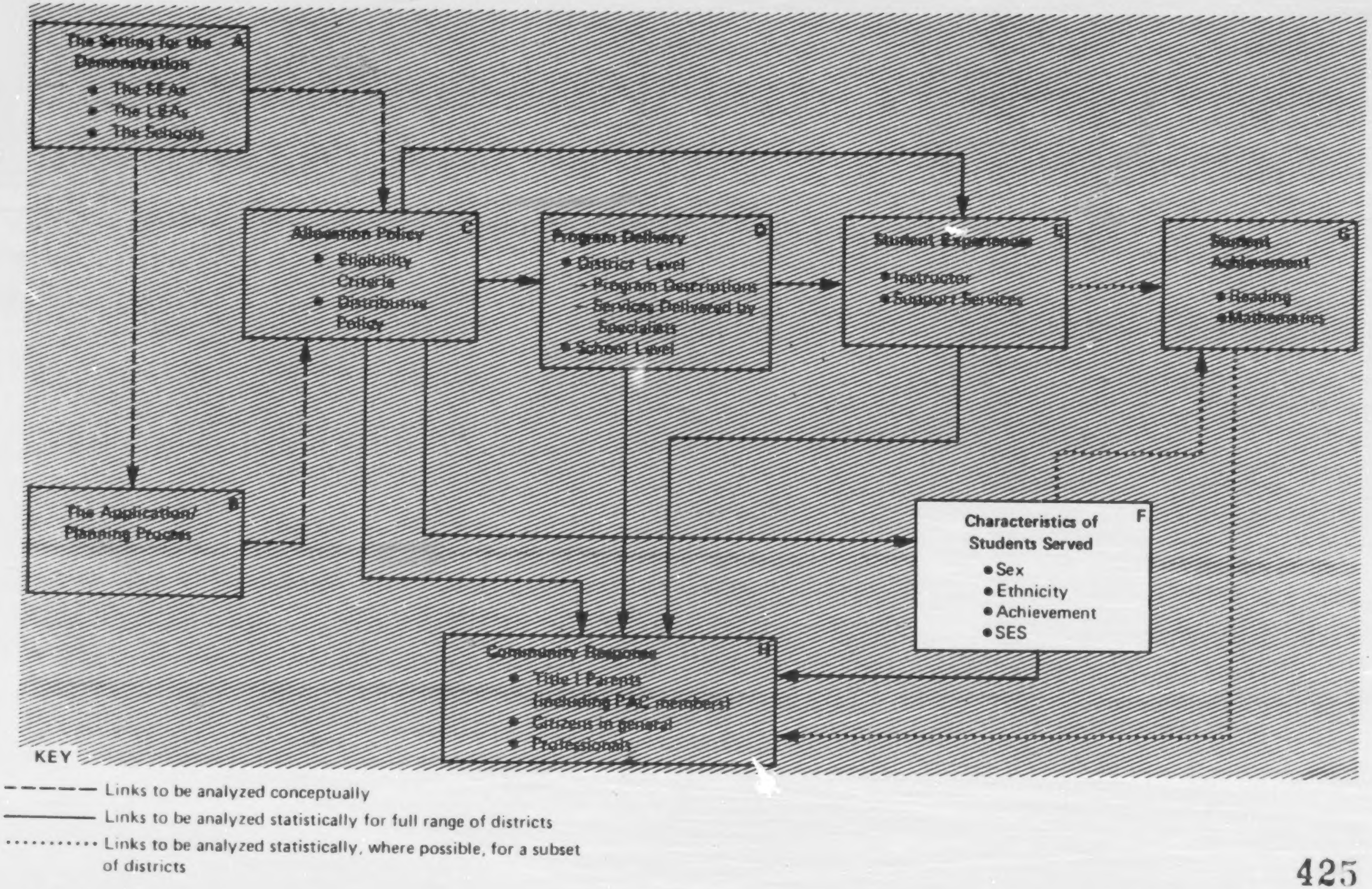
School Type	Compensatory Funding Source			
	Title I	Other Federal	State	Local
Schools currently receiving Title I	N %	N %	N %	N %
Schools receiving Title I during implementation years only	N %	N %	N %	N %
Schools never receiving Title I services		N %	N %	N %

The appropriate technique for testing for significant differences in these designs is a weighted means analysis of variance. Since there may be districts which do not have compensatory programs in all grade spans, or do not have state compensatory programs, the design for the analyses may be unbalanced. In such cases, only main effects and interactions can be estimated. These analyses will be more conservative than balanced analyses of variance because the interaction enters the error term. Post-hoc tests will be used to estimate the significance of specific comparisons.

Analyses by School Type by Funding Source. For each year, the analyses will include three factors: district (sixteen levels), school type (two or three levels based on Title I allocation policy participation), and compensatory funding source (four levels). One of the factors, funding source, is not completely crossed with type of school, there being by definition no Title I in non-Title I schools. In this situation, regression methods should be used since the standard computational methods for crossed designs do not apply. The choice of the regression approach means that the effects of interest must be explicitly coded in the analyses. The code indicates the value assigned to each level of the factors to be entered in an equation. Explicit coding methods not only solve the problem of an unbalanced design, but also have the advantage of reflecting the comparison being made directly in the coding scheme. This obviates the need for post-hoc comparisons. A detailed example of the type of coding scheme which will be developed including the coding for change analyses is presented in Section 8.4.2.

Chapter 7

STUDENT CHARACTERISTICS


The Setting for the Demonstration A
• The SEAs
• The LEAs
• The Schools
Allocation Policy C
• Eligibility Criteria
• Distributive Policy
Program Delivery D
• District Level
– Program Descriptions
– Services Delivered by Specialists
• School Level
Student Experiences E
• Instructor
• Support Services
Student Achievement G
• Reading
• Mathematics
The Application/ Planning Process B
Characteristics of Students Served F
• Sex
• Ethnicity
• Achievement
• SES
Community Response H
• Title I Parents (including PAC members)
• Citizens in general
• Professionals
KEY
Links to be analyzed conceptually
Links to be analyzed statistically for full range of districts
Links to be analyzed statistically, where possible, for a subset of districts

7.0 STUDENT CHARACTERISTICS

7.1 Research Objectives

Perhaps the most obvious link between allocation changes and hypothetical outcomes is in the area of student characteristics. It is very likely that the characteristics of students served by Title I (and possibly other compensatory programs) will change as the result of (1) a change in student selection criteria, (2) a change in school selection criteria (resulting in the addition of more schools in most instances), or (3) a combination of the two.

If student participation is determined entirely by achievement, for example, it is possible, although not necessary, that the number of poor students served by Title I will decline during the implementation years of the Demonstration. It is also possible that as more schools (serving varying population groups) are added, the characteristics of Title I students may change, independent of a change in within-school selection criteria. Whatever their cause, shifts in the characteristics of students served by Title I are policy relevant. As different constituencies are served, the program changes its essential nature, independent of changes in programs offered or experiences received.

The basic research question to be addressed in examining student experiences is: Do different types of students receive Title I services as a result of the reallocation of Title I funds? Determining the effects of reallocation requires a comparison of the characteristics of Title I students before the granting of waivers with the characteristics of Title I students during the implementation years of the Demonstration. In order to understand fully the changes in Title I, it is important to consider the characteristics of Title I students in two contexts: in comparison with students in other compensatory programs and with students in other cells of the student sampling design.

Examining the characteristics of students served by different funding sources is important because virtually all of the Demonstration districts have compensatory programs other than Title I. If we find no changes in the characteristics of students participating in other compensatory programs, we would infer that Title I does not affect other programs on this dimension and, therefore, other programs act independently. If the characteristics of students in other programs parallel the changes in Title I--the proportion of poor children participating decreases in both Title I and the state-funded compensatory programs, for example--we should then consider the possibility that the Demonstration has led to changes in other programs, in which case, spin-off effects which multiply Title I impact might be inferred. If changes in characteristics of students in Title I show reverse trends in other programs--for example, the proportion of poor students in the State-funded compensatory programs increases as their proportion in Title I decreases--we might conclude that other programs are reaching students dropped by Title I, which might soften the impact of reallocation policies.

Since it is possible for students to receive services from more than one compensatory program, we also want to determine whether there are differences in the types of students receiving various combinations of Title I and other programs.

Examining the characteristics of Title I students in the context of the student sampling design requires comparisons of Title I and non-Title I students in schools that currently receive Title I, that will receive Title I during the implementation years of the Demonstration, and (where appropriate) schools that will never receive Title I services. This design is described in more detail in Section 7.1. As noted above, describing all groups is necessary for understanding changes in Title I. If there is a shift in one part of a system, we want to see what happens in the rest of the system, for it may be that the system as a whole is changing. Further, knowledge of the characteristics of groups during year one may shed light on changes in these characteristics during years two and three. If, for example, the proportion of black students in Title I declines over the course of the Demonstration, and we document that the schools added to Title I during the implementation years were all white schools, then we would conclude that at least part of the change in the ethnic make-up of Title I students came from the addition of schools, not from the selection of different types of students within schools.

Separating students by grade level is important in all contexts because programs are often split administratively between grades 3 and 4 and therefore may serve different types of children.

The basic research question, then, can be translated into three more specific questions, to be addressed at both grade levels.

1. Do the characteristics of different compensatory programs differ at any one point in time during the Demonstration, and do they change over time?
2. Do different types of students receive different combinations of Title I and other compensatory programs at any one point in time during the Demonstration, and is there a change over time?
3. Do the characteristics of Title I and non-Title I students in different types of schools differ at any one point in time during the Demonstration, and do they change over time?

7.2 Design

The first two questions call for a research design that is distinct from the design needed to answer the third. To analyze student characteristics by compensatory funding source or funding source combination, the design for each district for any one year has two factors: compensatory funding source (Title I, other Federal, State, and Local) or funding source combination (Title I only, Title I and other Federal, Title I and State and Local) by grade level (see Tables 7-1 and 7-2). Characteristics of students served by different funding sources or combinations will be analyzed for a district only when cell sizes are adequate.

To analyze the characteristics of Title I and non-Title I students in different types of schools by grade level, the third question, the student sampling design will be used (see Table 7-3). Sample schools will be drawn from two strata in districts where all schools receive Title I and from three strata in districts where not all schools receive Title I. In the former, one stratum consists of schools receiving Title I all three years and the other consists of schools receiving Title I during the implementation years only, years two and three of the Demonstration. In the latter case, the three strata are schools receiving Title I all three years, schools receiving Title I in the implementation years, and schools never receiving Title I. Within each sample, two students are selected from each third and fourth grade classroom as follows: in classrooms with only Title I or only non-Title I students, the two students are drawn randomly from the class at large; in classes containing both Title I and non-Title I students, one student is randomly selected from each group. This design allows us to estimate characteristics of Title I/non-Title I students' grade level by school type.

TABLE 7-1

DESIGN FOR ANALYSES OF STUDENT CHARACTERISTICS BY FUNDING SOURCE AND GRADE

	1975 - 76		1976 - 77		1977 - 78	
Compensatory Funding Source	Gr. 3	Gr. 4	Gr. 3	Gr. 4	Gr. 3	Gr. 4
Title I						
Other Federal						
State						
Local						

TABLE 7-2

DESIGN FOR ANALYSES OF STUDENT CHARACTERISTICS BY FUNDING SOURCE COMBINATION AND GRADE

	1975 - 76		1976 - 77		1977 - 78	
Funding Source Combinations	Gr. 3	Gr. 4	Gr. 3	Gr. 4	Gr. 3	Gr. 4
Title I only						
Title I and Other Federal						
Title I and State						
Title I and Local						

TABLE 7-3

BASIC STUDENT SAMPLING DESIGN

School Type	School Year											
	1975-76				1976-77				1977-78			
	Student Type				Student Type				Student Type			
	Students Rec'g Title I		Students Not Rec'g Title I*		Students Rec'g Title I		Students Not Rec'g Title I		Students Rec'g Title I		Students Not Rec'g Title I	
	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4
Schools currently receiving Title I												
Schools receiving Title I during implementation years only	▨	▨										
Schools never receiving Title I services	▨	▨			▨	▨			▨	▨		

NOTE: *Underachieving students not receiving Title I are those students scoring at or below the 40th percentile on a standardized reading achievement test.

▨ These cells by definition cannot exist.

7.3 Data Sources and Variables

Data on student characteristics come from three sources:

- Class Roster
- Student School Record Information Form (SSRIF)
- Parent Interview

The Class Roster will provide information on all third and fourth grade students in sample schools and will be used for analyses by funding source and funding source combination. The SSRIF provides data only for sample students and will be used for analyses of groups in the student sampling design. The Parent Interview will be used only for the Title I sample. Variables on achievement and poverty which appear in more than one instrument become more refined as the group described narrows--as one moves from the Class Roster to the Parent Interview. The most fully described group is Title I students for whom data are available from all three instruments.

7.3.1 Class Roster. This form, filled out by all classroom teachers in grades 3 and 4 in sample schools, provides unduplicated counts of students participating in compensatory programs. Each teacher lists all the children in his or her class, characterizes them on four dimensions, and indicates in which compensatory programs, if any, each child participates. The characteristics for which information is provided are:

- Sex
- Ethnicity
- Reading achievement level
- Free lunch program participation

The student characteristics will be taken directly from items on the Roster. Distribution of students into appropriate funding source categories will require sorting district-specific programs into the standard funding source categories.

7.3.2 Student School Record Information Form (SSRIF). The SSRIF will be completed for each student in the sample by the student's classroom teacher. This instrument provides data for five student characteristics:

- Reading achievement level
- Math achievement level
- Age
- Aid to Family with Dependent Children (AFDC) status
- First language if other than English

These five variables which are taken directly from items in the SSRIF will be analyzed individually and in the following combinations:

- Reading achievement by AFDC
- Reading achievement by sex (from Class Roster)
- Reading achievement by first language
- Math achievement by AFDC
- Math achievement by sex
- Math achievement by first language

7.3.3 Parent Interview. The major objective of the Parent Interview is to obtain accurate estimates of the family characteristics of Title I students in the sample. Parents of all Title I students in the sample will be interviewed. This instrument provides data for five variables:

- Income
- Educational Background
- Transfer payments received and public assistance
- Employment status
- Socio-economic status (SES)

Each of the first four variables will be taken directly from the interview. The SES variable will be created from the income and educational background items, and will be crossed with other variables as follows:

- SES by reading achievement level (from SSRIF)
- SES by math achievement level (from SSRIF)
- SES by ethnic background

7.4 Analytic Procedures

7.4.1 Descriptive

Descriptive statistics will be computed for all variables and variable combinations described above. Means and standard deviations will be computed for the continuous variables and frequency distributions for categorical variables. Table 7-4 shows the format for presenting statistics computed by funding source category (presentation for funding source combination is parallel) and Table 7-5 shows the format for computations in the student sampling design. Assuming SES to be the best index of poverty, SES will be correlated with Free Lunch enrollment and AFDC status to obtain a rough indication of the accuracy of these measures as proxies for poverty.

7.4.2 Comparative

Analysis of variance strategies will be used for comparing characteristics of different groups of students. (An exception will be made for analyses of ethnicity where Chi-square techniques will be used because of the categorical response scale.) The choice of analysis of variance strategy will depend on the design being used.

Analyses by Compensatory Funding Source and Funding Source Combination.

These two designs call for the same type of analysis. Both have three factors for each year: district (thirteen levels),

TABLE 7-4

SEX AND RACE OF STUDENTS IN DIFFERENT COMPENSATORY FUNDING SOURCE CATEGORIES BY GRADE LEVEL IN 1975-76

Compensatory Funding Sources	Sex			Race		
		Grade			Grade	
		3	4		3	4
Title I	% male % female			% black % white % other		
Other Federal	% male % female			% black % white % other		
State	% male % female			% black % white % other		
Local	% male % female			% black % white % other		

TABLE 7-5

READING ACHIEVEMENT LEVELS OF STUDENTS IN THE BASIC STUDENT SAMPLING DESIGN IN 1975-76

School Type	Student Type			
	Students Rec'g Title I		Students Not Rec'g Title I	
	Grade		Grade	
	3	4	3	4
Schools currently receiving Title I	$\bar{X}$ S.D.	$\bar{X}$ S.D.	$\bar{X}$ S.D.	$\bar{X}$ S.D.
Schools receiving Title I during implementation years only	$\bar{X}$ S.D.	$\bar{X}$ S.D.	$\bar{X}$ S.D.	$\bar{X}$ S.D.
Schools never receiving Title I services	$\bar{X}$ S.D.	$\bar{X}$ S.D.	$\bar{X}$ S.D.	$\bar{X}$ S.D.

funding source (four levels) or funding source combination (four levels), and grade (two levels). Estimates of change over time will be computed by including data for more than one year and adding year as a factor in the analyses. Since there will be districts which do not have students in every funding source and funding source combination, the design for the analysis will be unbalanced. As a result, only main effects and not interactions will be estimated. This analysis will be more conservative than a balanced analysis of variance because the interaction enters the error term. Post-hoc tests will be used to estimate the significance of specific comparisons.

Analyses by Student Sampling Design

The analysis for any single year will include four factors: district (≤ thirteen levels), school type (two or three levels based on Title I allocation policies participation), student Title I participation (two levels), and grade (two levels).* One of the factors, student Title I participation, is not completely crossed with type of school, there being by definition no Title I students in non-Title I schools. In this situation, regression methods will be used since the standard computational methods for crossed designs do not apply. The choice of the regression approach means that the effects of interest must be explicitly coded in the analysis. The codes indicate the value assigned to each level of the factors to be entered in an equation. Explicit coding methods not only solve the problem of an unbalanced design but also have the advantage of reflecting the comparison being made directly in the coding scheme. This obviates the need for post-hoc comparisons. An example of the type of coding scheme which will be developed, including coding for change analyses, is presented in Section 8.4.2.

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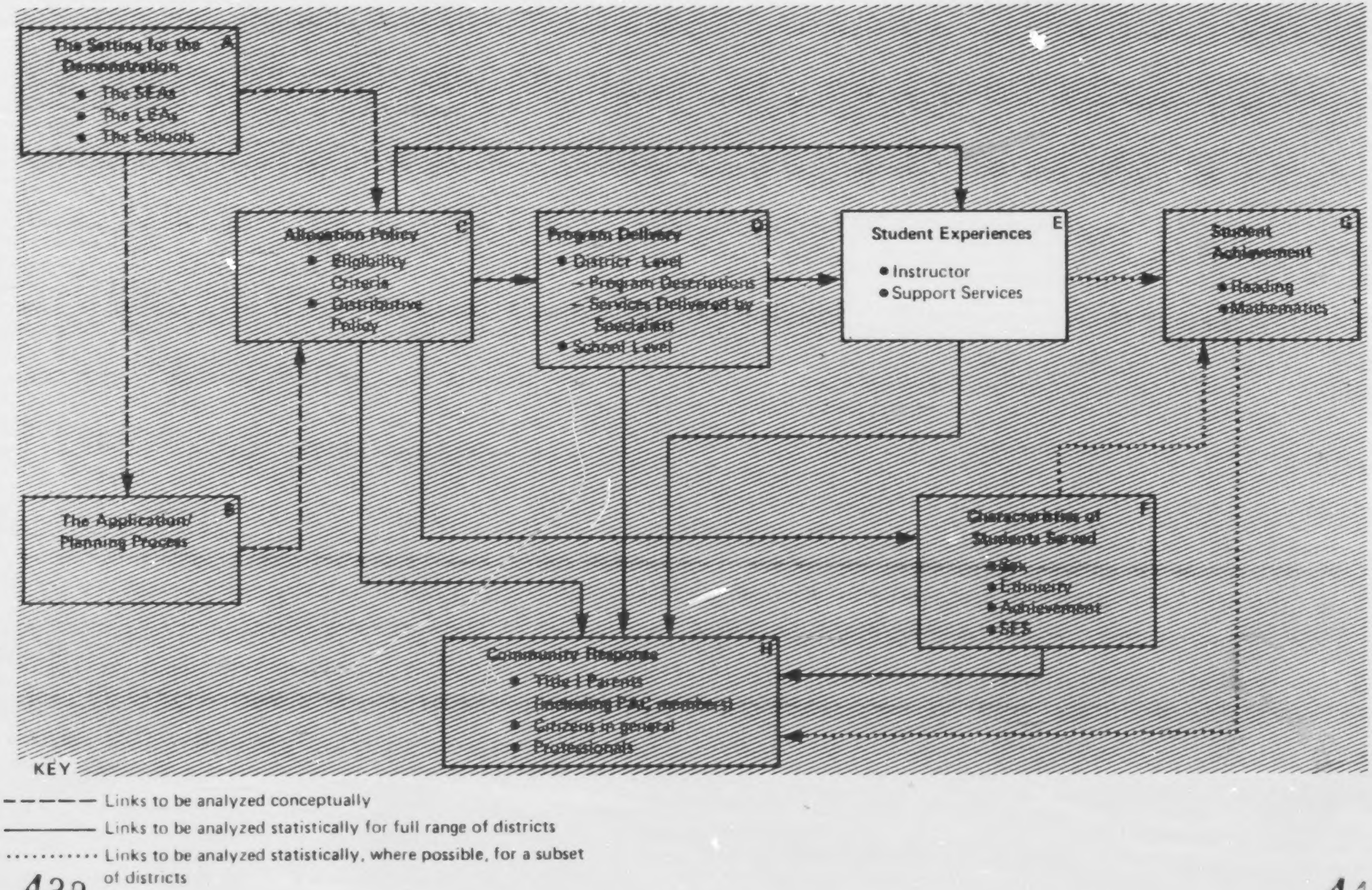
*All districts will be included in the design with two school types: currently Title I and Title I during the implementation years only. For those districts having a third school type--never Title I--the three-level design will also be used.

Chapter 8

STUDENT EXPERIENCES


The Setting for the Demonstration A
• The SEAs
• The LEAs
• The Schools
Allocation Policy C
• Eligibility Criteria
• Distributive Policy
Program Delivery D
• District Level
– Program Descriptions
– Services Delivered by Specialists
• School Level
Student Experiences E
• Instructor
• Support Services
Student Achievement G
• Reading
• Mathematics
The Application/ Planning Process B
Characteristics of Students Served F
• Sex
• Ethnicity
• Achievement
• SES
Community Response H
• Title I Parents (including PAC members)
• Citizens in general
• Professionals
KEY
– – – – – Links to be analyzed conceptually
———— Links to be analyzed statistically for full range of districts
·········· Links to be analyzed statistically, where possible, for a subset of districts

8.0 STUDENT EXPERIENCES

8.1 Research Objectives

Student experiences comprise a key variable group in the basic analytic model for the Demonstration Study. Since the goals of Title I focus on students, an examination of their experiences is obviously a crucial component in analyzing the effects of Title I fund reallocation. The identification of student experiences as a separate variable group in the model emphasizes the distinction we wish to make between student experiences and program delivery.

There are two reasons for looking directly at the services received by students rather than inferring them from the descriptions of the programs in which they participate. First, in districts where a student may participate in more than one compensatory program, it would be difficult to estimate accurately the cumulative services delivered to the student from the combination of programs, since such a combination may or may not be additive. Second, program implementations need not correspond exactly with program designs. We are more interested in what students actually experience than in what is intended for them. In fact, the instruction which is delivered by teachers in basic and compensatory programs may be selectively received by students, so that a student's experience may differ not only from program intentions, but also from teacher activity.

As shown in the analytic model, changes in student experiences may result indirectly from a reorganization of the Title I program and redefinition of its content (Link DE in the model). Changes may also result from a shift in the amount of services received by each student, independent of a qualitative change in the program (Link CE in the model).

The basic research question to which this chapter is addressed is: What effect does the reallocation of Title I funds in a district have on the educational experiences of different types of students? In answering this question, educational experiences will be divided into instructional and support services, and regular instruction will be distinguished from compensatory. The various types of students will be categorized by the sample design and groups within the sample design. The former divides students by the Title I status of the schools they attend and their participation in Title I. For a subset of analyses, student characteristics such as ethnicity, sex, achievement level, and poverty status will be examined, individually and in combination, within the sampling groups. The effects of reallocation will be determined by comparing student experiences before the granting of waivers with student experiences during the implementation years of the Demonstration. These breakdowns provide a more precise statement of the basic research question as follows:

1. Do Title I students and non-Title I students in different types of schools receive different regular and compensatory services before the granting of the waivers and do the services change over time?
2. Do Title I and non-Title I students with different characteristics receive different services in different types of schools at one point in time and do the services change over time?

8.2 Sampling Design

The basic design for analyzing student experiences is the student sampling design presented in full in Section 3.3.2 and summarized in Section 7.2 on student characteristics (see Table 8-1). Essentially, this design allows us to

TABLE 8-1

BASIC STUDENT SAMPLING DESIGN

School Type	School Year											
	1975-76				1976-77				1977-78			
	Student Type				Student Type				Student Type			
	Students Rec'g Title I		Students Not Rec'g Title I*		Students Rec'g Title I		Students Not Rec'g Title I		Students Rec'g Title I		Students Not Rec'g Title I	
	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4
Schools currently receiving Title I												
Schools receiving Title I during implementation years only	▨	▨										
Schools never receiving Title I services	▨	▨			▨	▨			▨	▨		

NOTE: *Underachieving students not receiving Title I are those students scoring at or below the 40th percentile on a standardized reading achievement test.

▨ These cells by definition cannot exist.

estimate services received by Title I and non-Title I students by grade level (3rd or 4th) and school type (schools receiving Title I all three years, schools receiving Title I funds during the implementation years only, and, where appropriate, schools never receiving Title I).

After the sample of students is drawn, the basic design components will be divided further on the basis of student characteristics, to the degree that the distributions of these characteristics yield an adequate sample size for each cell (see Table 8-2). The most important characteristic is achievement level. Title I students cannot be sorted on this dimension because their participation in Title I is premised on low achievement, but non-Title I students will be separated into underachieving and achieving groups where possible. Such a separation is especially valuable in year one, since it allows comparison of the experiences of Title I students with those of non-Title I students who are also in need of services and who may be served during the implementation years. Other characteristics such as poverty, ethnicity, and sex will be used both individually and, if possible, in a multivariate analysis to further divide the student sample. In the multivariate case, we will use a discriminant function or similar analysis to identify the cluster of variables which best discriminates between Title I and non-Title I students in Title I schools. Then, where the distribution of variables allows, we will use the same clusters to separate students in non-Title I schools in order to compare the experiences of non-Title I students who are most like Title I students.

8.3 Variables and Data Sources

Variables on student experiences are grouped under two headings: instruction, which is defined as activities

TABLE 8-2

SECONDARY DESIGN FOR ANALYZING STUDENT EXPERIENCE

School Type	1975-76						1976-77						1977-78					
	Student Type						Student Type						Student Type					
	Students Rec'g Title I		Under-Achieving Students Not Rec'g Title I*		Achieving Students Not Rec'g Title I		Students Rec'g Title I		Under-Achieving Students Not Rec'g Title I		Achieving Students Not Rec'g Title I		Students Rec'g Title I		Under-Achieving Students Not Rec'g Title I		Achieving Students Not Rec'g Title I	
	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4
Schools currently receiving Title I																		
Schools receiving Title I during implementation years only	▨	▨																
Schools never receiving Title I services	▨	▨					▨	▨					▨	▨				

NOTE: *Underachieving students not receiving Title I are those students scoring at or below the 40th percentile on a standardized reading achievement test.

▨ These cells by definition cannot exist.

dealing directly with the teaching of students or with the interaction between teacher and students; and support services, which are defined as activities designed to assess and improve the well-being of students and to supplement the teaching process. This division seems natural because the two types of services differ in so many ways: in the types of people who deliver them, in the reasons for the services, and in their frequency and duration. With respect to instruction, the emphasis is on language arts and mathematics since these are the areas in which Title I programs are concentrated. Some coverage, however, is given to other content areas as well.

Most variables will be used to describe both regular and compensatory services. Regular refers to the basic program available to all children in a school district designed to develop necessary knowledge, skills, appreciations, attitudes, and behavioral characteristics. Compensatory refers to supplemental instruction and services provided for economically poor and/or low achieving children. Supplemental means different from, or in addition to, the usual instruction and services provided for the average child.

Although the focus of the Demonstration is on compensatory services, the role of compensatory education in a district can only be understood fully when examined in the context of the regular services provided by the district. Considering regular as well as compensatory services is important in a number of ways.

First, the examination of both regular and compensatory services facilitates a determination of whether changes in compensatory services are related to the Demonstration itself or to more general trends in education. If changes are found solely in the compensatory services received by students, then we have some reason to believe that the changes are associated with changes in Title I allocation or program policies. If, on the other hand, we find changes in both regular and compensatory services, then we may be reluctant to attribute these changes to the Demonstration, since they might have resulted from a more general change in educational strategies.

Second, a consideration of regular as well as compensatory services furthers our understanding of changes over time within the cells of Table 8-1. It is possible, for example, that during the implementation years of the Demonstration, Title I students in a given district may receive less compensatory instruction in reading than they had previously. At the same time, the amount of regular reading instruction provided in the basic program might increase. If we were to consider only the compensatory reading instruction received by Title I students in this district, we would reach the conclusion that such instruction had diminished over time. By looking at the total instructional program, we will be able to recognize that the reduction in compensatory reading instruction was offset at least in part by an increase in regular reading instruction for these students.

Third, knowledge of both the regular and compensatory services helps in interpreting changes in relationships across cells of the student sampling design, especially relationships between Title I and non-Title I student groups. Table 8-3 displays nine possible relationships between these groups. Cell 4 represents the normal or expected pattern for any one point in time: Title I and non-Title I students receive the same amount of regular instruction in the basic educational program and Title I students receive additional compensatory instruction beyond that. Cell 1, where the amounts of both regular and compensatory instruction received by Title I students exceed the instruction provided to non-Title I, also represents an expected pattern: Title I students receive special treatment

TABLE 3-3

POSSIBLE RELATIONSHIPS BETWEEN TITLE I AND NON-TITLE I STUDENTS IN THE REGULAR AND COMPENSATORY INSTRUCTION RECEIVED

	Compensatory Instruction		
Regular Instruction	Title I > Non-Title I	Title I = Non-Title I	Title I < Non-Title I
Title I > Non-Title I	1	2	3
Title I = Non-Title I	4	5	6
Title I < Non-Title I	7	8	9

in addition to that provided during the time formally labelled as compensatory. These relationships would not be difficult to interpret.

The other cells in both the first and the second rows, if they exist empirically with sufficient frequency, would require additional analyses to interpret because they diverge from the expected pattern of Title I/non-Title I differences in student experiences. While it would be possible for the compensatory instruction provided to non-Title I students to equal or to exceed that provided to Title I students (Cells 5 and 6)--if, for example, the district is a large one with many other compensatory programs--it would be unlikely since not all non-Title I students need compensatory services. Entries in the third row, where the Title I students' regular instruction is less than non-Title I students' regular instruction, are even more unlikely and would require a great deal of interpretation because on their face they do not meet federal comparability requirements. These requirements provide that instructional services supported by state and local funds for children in Demonstration schools be comparable to those services received by children in non-Demonstration schools within districts. The Title I legislation further requires that Title I funds supplement rather than supplant funds available from state and local sources.

Thus, while student experiences are not equally likely to fall into any of the cells of the matrix, we must be aware of all possible combinations of relationships since different combinations call for widely differing interpretations of compensatory services provided to Title I students at any one point in time.

The matrix is also useful in tracing changes in those services during the Demonstration. If, for example, deconcentration results in Title I students receiving less compensatory instruction than before, but still more than non-Title I students, that decrease might be made up by an increase in their regular instruction, which results in their receiving more regular instruction than non-Title I students. Such a change might show up as a shift over time from Cell 4 to Cell 1.

Data on student experiences will be taken from three sources:

- Classroom Activities Log (CAL)
- Program Description Modules (PDM)
- Student School Record Information Form (SSIRF)

The first two instruments will be used primarily to measure instructional variables; the third support services. To a great extent, each data source provides complementary rather than overlapping information. Each was designed for a different purpose, so that even when similar areas are covered, the data provide a different perspective on those areas. The data from all three sources are linked to specific sample students and are provided by their teachers. Both of these factors increase our confidence that we are accurately describing services received by the sample students.

Table 8-4 summarizes the relationships between data sources and variable groups. The specific variables to be examined within each instrument are described below.

Table 8-4

MAJOR VARIABLE GROUPS BY DATA SOURCE*

Data Source	Variable Group				
	Language Arts/ Math		Other Content Areas		Support Services
	Comp.	Reg.	Comp.	Reg.	
CAL	X	X	X	X	
Program Modules	X	X			
SSRIF					X

*Table 8-4 shows only the primary use of data from each source. The CAL also contains a limited amount of information on support services and the SSRIF contains some information on ESL/bilingual instruction. These are secondary purposes for these instruments.

8.3.1 Classroom Activities Log (CAL)

Data from each CAL will provide a complete desciption of the experiences of a single student on a typical day. The form is completed by homeroom (primary) teachers of sample students. During the first year, each student will be observed on two randomly selected days. During the second year, observation will occur on two randomly selected days. The CAL provides data on five aspects of student experiences: content area of instruction, size of instructional grouping, person providing instruction, and whether instruction is compensatory or bilingual. Data are recorded in ten-minute intervals throughout the day. All analyses will be based on time spent in each category or combination of categories.

In delineating actual student experiences over the total instructional day, the CAL will provide a precise statement of student experiences and will facilitate direct comparison of regular and compensatory instruction for students in different cells. Geared to specific students, this instrument will contain data for the analysis of student experiences by student characteristics.

The first set of variables constructed from the CAL data will provide an overall description of the student's day. The variables include:

- Time spent in each content area
- Time spent in compensatory and bilingual instruction
- Instructional group size pattern.
- Staffing pattern

Time spent in each content area and in compensatory and bilingual instruction are straightforward. The pattern of instructional group size can be used to determine whether one grouping predominates (e.g., 80% of the student's day is spent in a small group with 2-5 children), whether there are particular combinations of groupings, or whether a variety of groupings are used. Staffing patterns can be used to determine whether the classroom teacher gives most of the instruction or whether the child's instruction shifts among other classroom teachers and specialists. It also can be used to determine the extent to which paraprofessionals --aides and volunteers--and student teachers provide instruction to the sample student.

The second set of variables will focus on regular and compensatory language arts and mathematics instruction which the students receive. For each of these subjects we will look at:

- Instructional group size
- Staffing pattern

From these two variables, we will obtain information on the instructional group size and the person providing instruction in compensatory language arts, regular language arts, compensatory mathematics, and regular mathematics.

Additional constructs will be developed by clustering variables or developing scales with several categories to provide policy relevant summary findings which distinguish among student groups. To a great extent these constructs will result from explorations of the data themselves, and will depend on the reliability and variability of the dimensions, as well as on the patterns revealed by early analysis. Examples of such constructs might be an index of individualization of assignment patterns using data from the group size variable or an index of adult-child interaction using data from the group size and adult-involved variables.

8.3.2 Program Description Modules

The CAL gives a view of the total instructional day and provides precise information on the amount of instruction, the size of the instructional group, and the people providing instruction. The Program Modules more fully examine the language arts and mathematics instruction, both regular and compensatory, provided to sample students in the Demonstration districts. The intention is to learn more about how the instruction is provided. These two subject areas were chosen because they are the areas in which most Title I effort is concentrated.

Since we are interested in student experiences, the primary referent for the Modules is the sample students. In order to obtain information about the individualization of instruction, it is necessary to ask about these students in relation to others. For this reason the Modules are linked to sample students but also relate these students to specified others, e.g., the group in which the sample children receive their compensatory instruction in language arts on a typical day.* The Modules are filled out by the people who provide instruction in these subjects to the sample children.

Variables from the Program Description Modules fall into two categories:

Setting of instruction

- Person who provides instruction
- Location of instruction**
- Number of children meeting together

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*The exact reference group varies depending on whether we are asking about regular or compensatory instruction, and whether students are grouped heterogeneously by Title I. It is assumed with only Title I or only non-Title I students that the reference group is a single unit--the entire class receiving instruction at the same time. In regular programs where both Title I and non-Title I students are grouped together for instruction, two reference groups are assumed: other Title I and non-Title I students.

**Only for compensatory instruction.

- Heterogeneity of grouping with respect to Title I *
- Amount of instruction per week
- Length of time in program

Strategies for instruction

- Detail of teacher's lesson plans
- Means of assessing children's performance at the beginning of the year
- Existence of performance objectives
- Basis for assigning lessons
- Instructional groupings
- Use of materials
- Means of assessing children's progress
- Extent of individualization

The same set of variables will be used to describe language arts and mathematics instruction in both the regular and compensatory programs (with the exception of the footnoted variables). All variables, except the extent of individualization, will be drawn directly from the questionnaire items. The individualization variable(s) will be developed through a combination of judgmental and empirical scale construction, with items pertinent to the scale selected judgmentally. The homogeneity of this scale will be assessed using cluster and/or factor analytic techniques. Finally, item weights will be assigned, the scale scored, and internal consistency assessed using coefficient alpha.

8.3.3 Student School Record Information Form (SSRIF)

The SSRIF elicits information about services received by a sample student throughout the school year. A separate form will be completed for each sample student. The SSRIF is

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*Only for regular instruction.

the only data source which will be used in describing support services received by sample students and in analyzing program activities by funding source. It also provides data on a limited set of instructional variables in a form not recorded elsewhere. The variables will be drawn directly from the questionnaire items.

Instructional Variables

- Receipt of bilingual or English-as-a-second language instruction and extent of that instruction
- Number of field trips taken

Support Services Variables*

- Type of service and number of times received
- Type of specialist and number of times seen
- Reason for seeing specialists

Program Activities by Funding Source Variables

- Compensatory reading instruction
- Counseling
- Other services by

- Title I funding
- Other Federal funding
- State Compensatory funding
- Local funding

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*Information on support services is also obtained on the CAL. Although this information is essential to fully describe the instructional day, one cannot use a single day to estimate the frequency and nature of a relatively rare event, as support services are.

8.4 Analytic Procedures

8.4.1 Descriptive

The first step of the analysis will be to compute descriptive statistics for all variables--for each cell, for each district, and for the total demonstration. Means and standard deviations will be computed for continuous variables and frequency distributions for categorical variables. These analyses will be presented in the same form as the analyses for student characteristics (Table 7-4). For some of the CAL analyses, we will also want to look at crosstabs for combinations of variables.

8.4.2 Comparative

Comparative analyses of student experiences will be performed with two designs, the basic student sampling design and the sampling design with additional student characteristics.

The strategy chosen for testing for significant differences will depend on the nature of the response scale of the variable being analyzed. If the response scale is categorical, a Chi-square approach will be used. If the response scale is continuous, ordered, or dichotomous, a modification of the usual analysis of variance approach will be used. For the basic design, the analyses will include four factors: district (≤ sixteen levels), school type (two or three levels* based on allocation policy), student Title I participation (two levels), and grade (two levels). One of the factors, student Title I participation, is not completely crossed with type of school, there being by definition no Title I students in non-Title I schools. In this situation, regression methods will be used since the standard computational methods for crossed designs do not apply. The choice of the regression approach means that the effects of interest must be explicitly coded in the analysis. The codes indicate the value assigned to each level of the factors to be entered in an equation. Explicit coding methods not only solve the problem of an imbalanced design, but also have the advantage of reflecting the comparison being made directly in the coding scheme. This obviates the need for post-hoc comparisons.

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*All districts will be included in the design with two school types: currently Title I and Title I during the implementation years only. For those districts having a third school type--never Title I--the three-level design will also be used.

The development of a coding scheme can be illustrated by examining a likely set of comparisons for analyses of student experiences in the secondary design which was presented in Table 8-2. In the development of the coding scheme, only the unbalanced portion of the design will be considered. Since grade and district are assumed to be balanced across the cells in the table, coding their effects is straightforward. We return to this at the end of the section.

Since the imbalance in the design changes between the 1975-76 and 1976-77 school years, the coding schemes will differ slightly for those years. We will start by developing a coding scheme for the 1975-76 data and modify it to fit the later years. In developing the various coding schemes, it is desirable to make the comparisons as similar as possible across the three years. This will aid in interpretation and allow for integration of the comparisons into a change analysis in later sections.

The 1975-76 data cells may be laid out as rows in a coding table. This is done in Table 8-5 below, along with two sets of codes.

In the development of the coding scheme, we first try to establish the variation among the school types at any particular student level. Once this variation is assessed, the student types are compared. In Table 8-5, columns I and II compare the three school types within the low-achieving non-Title I students. Column I compares always Title I and never Title I schools, while

TABLE 8-5

CODING SCHEMES FOR FIRST YEAR ANALYSIS IN SECONDARY STUDENT EXPERIENCE DESIGN

Design Variables		Coding Schemes							
		Primary Codes						Alternative Codes	
School Type	Student Type	I	II	III	IV	V	VI	V′	VI′
Currently Title I	Title I	0	0	0	0	-3	-3	-6	0
	Lo Ach	1	1	0	0	1	-3	1	-1
	Hi Ach	0	0	1	1	0	4	1	1
Title I during the implementation years only	Lo Ach	0	-2	0	0	1	-3	1	-1
	Hi Ach	0	0	0	-2	0	4	1	1
Never Title I	Lo Ach	-1	-1	0	0	1	-3	1	-1
	Hi Ach	0	0	-1	1	0	4	1	1

Column II represents a comparison of the implementing schools with the other two. A similar comparison of schools is represented in Columns III and IV for high-achieving students. These four comparisons represent the variation among school types comprising available data. Column V represents a comparison of Title I students with low-achieving students, who might be considered a relevant comparison group given the policy interests of the study. The final comparison (VI) is between high achievers and a combination of Title I and low achievers.

The nature of the comparisons is indicated by the pattern of signs in the columns. Column I, for instance, indicates a comparison between low achievers in schools which always have Title I and which never have Title I. The numbers in the table make the various components independent (orthogonal). This is advantageous for computational and interpretive purposes. Since the columns are orthogonal, the comparisons may be assessed independently, given that the overall design is balanced with respect to these seven cells.

No single set of codes is determined. They are generated principally on the basis of comparisons of interest, with constraints imposed by the orthogonality requirements. Thus, alternative coding schemes are possible. One such alternative is given in the last two columns of the table. We assume that the first four columns are still of interest. However, rather than compare Title I students with low achievers it might be better to compare them with all other students. This is done by Column V' which replaces column V in the coding scheme. The remaining comparison is then a comparison of low achievers and high achievers. This is represented by Column VI' which replaces Column VI in the coding scheme.

Since the data for 1976-77 and 1977-78 have the same pattern as for 1975-76 except for one extra cell, the same coding scheme may be used. An extra row must be included for the "new" group and a new comparison (column) must be generated. This results in Table 8-6.

TABLE 8-6

CODING SCHEMES FOR SECOND AND THIRD YEAR ANALYSIS
IN SECONDARY STUDENT EXPERIENCE DESIGN

Design Variables		Coding Schemes											
		Primary Codes							Alternative Codes				
School Type	Student Type	I	II	III	IV	V	VI	VII	V′	VI′	V″	VI″	VII″
Currently Title I	Title I	0	0	0	0	-3	-3	1	-6	0	1	0	-3
	Lo Ach	1	1	0	0	1	-3	1	1	1	0	1	1
	Hi Ach	0	0	1	1	0	4	1	1	-1	0	-1	1
Title I during the implementation years only	Title I	0	0	0	0	0	0	-7	0	0	-1	0	-3
	Lo Ach	0	-2	0	0	1	-3	1	1	1	0	1	1
	Hi Ach	0	0	0	2	0	4	1	1	-1	0	-1	1
Never Title I	Lo Ach	-1	1	0	0	1	-3	1	1	1	0	1	1
	Hi Ach	0	0	-1	1	0	4	1	1	-1	0	-1	1

The comparisons are the same as for the previous table except for Column VII which compares the new group with all other groups. Again columns V' and VI' may replace columns V and VI in the coding scheme.

The comparisons indicated by Column VII may be somewhat problematic, since the Tilte I group is compared with a mixture of Title I and other groups. It may be of greater interest to compare all Title I groups with other groups and to compare the two Title I groups with each other. These comparisons are coded in columns V" and VI" of Table 8-6. If they are to be used, all three columns (V, VI, VII) must be replaced by new codes (V', VI", VII").

As mentioned previously, variables which balance with respect to the school type x student type design are coded in a straightforward manner. A set of codes is developed for the main effect of the new variable and interaction codes are developed through direct multiplication. As an illustration, consider the inclusion of grade in the design.

Since there are two grades they may be coded 1, -1. The table may be laid out as follows:

TABLE 8-7

CODING SCHEME FOR BALANCED PORTIONS OF THE DESIGN

Design Variables		Coding Scheme					
School Type	Pupil Type	Grade	G	I	II	GxI	GxII
Currently Title I	Title I	3	1	0	0	0	0
		4	-1	0	0	0	0
	Lo Ach	3	1	1	1	1	1
		4	-1	1	1	-1	-1
	Hi Ach	3	1	0	0	0	0
		4	-1	0	0	0	0
Title I during the implementation years only	Lo Ach	3	1	0	-2	0	-2
		4	-1	0	-2	0	2
	Hi Ach	3	1	0	0	0	0
		4	-1	0	0	0	0
Never Title I	Lo Ach	3	1	-1	1	-1	1
		4	-1	-1	1	1	-1
	Hi Ach	3	1	0	0	0	0
		4	-1	0	0	0	0

Column G represents the effect of grade. Third grade students are coded 1 and fourth grade students, -1. Columns I and II are taken from the original scheme for 1975-76 (Table 8-5). Each row is duplicated to account for the "splitting" of the cells. Columns GxI and GxII represent interactions of grade with the previous comparisons. Thus GxI is an estimate of the interaction of grade with the school type differences in low achievers. The codes are obtained by multiplying corresponding codes in the two columns representing the interacting variables. Thus, for GxI, row 1, we get 1 x 0 = 0, for row 3, 1 x 1 = 1, etc. The remainder of the table is omitted since codes are computed in the same manner and need not be presented for this illustration.

Student characteristics may be entered into the design in the same manner as design variables if they are qualitative. Thus, for example, sex may be coded 1, -1 and included in the same manner as grade level. Continuous variates (for example, SES) simply take on the value of the scale in question. With characteristics other than achievement level, interaction terms will not be routinely generated in the coding scheme. It is preferable to check the differences in the regression among the groups beforehand, either theoretically on the basis of what is known about the variable or empirically by computing regressions for each group separately and comparing them, and to code only the interactions of interest.

8.4.3 Analysis of Change

The analysis of change across the three years follows the same form as the comparative analysis. In laying out the coding scheme we note that six cells are common to the three time samples. These are the cells resulting from a combination of school type and the two pupil types which do not receive Title I (TI) services. Thus there is a crossed design with the factors time (75-76, 76-77, 77-78), school type (TI all years, TI implemented 76-77, no TI), and pupil type (low achieving non-TI, high achieving non-TI). This eighteen cell design allows computation of main effects and all interactions of these factors. These can be computed using standard methods. However, it is useful to use the coding method both to provide tests of specific hypotheses and to allow for the inclusion of the remaining (TI) students in the analysis.

In one likely coding scheme for the analysis, the first seventeen comparisons correspond to the analysis of the eighteen cells in the "crossed" part of the design. They are detailed as follows:

I. Comparison of pre-implementation with post implementation years (for non-TI students)

II. Comparison of the two implementation years (for non-TI students)

III. Comparison (for low achievers) of schools which have always had TI with those which have never had TI.

IV. Comparison (for low achievers) of implementation schools with others

V. Same as III for high achievers

VI. Same as IV for high achievers

VII. Comparison of high achievers and low achievers

The next ten comparisons represent interactions:

VIII. I x III

IX. I x IV

X. I x V

XI. I x VI

XII. II x III

XIII. II x IV

XIV. II x V

XV. II x VI

XVI. II x VI

XVII. II x VII

These are interpreted by referring to the components. For instance, comparison VIII represents an interaction of the pre-post implementation comparison and the always-never TI comparison. Thus, it gives an indication of the difference in pre-post changes in always TI as opposed to never TI schools. Alternatively, it could be interpreted as an indication of the change in the difference between the two types of schools over time.

Given these comparisons the remaining analyses relate to the five TI groups. These are laid out as follows:

A. Comparison of pre-implementation with post implementation years for TI students in schools which have always had TI

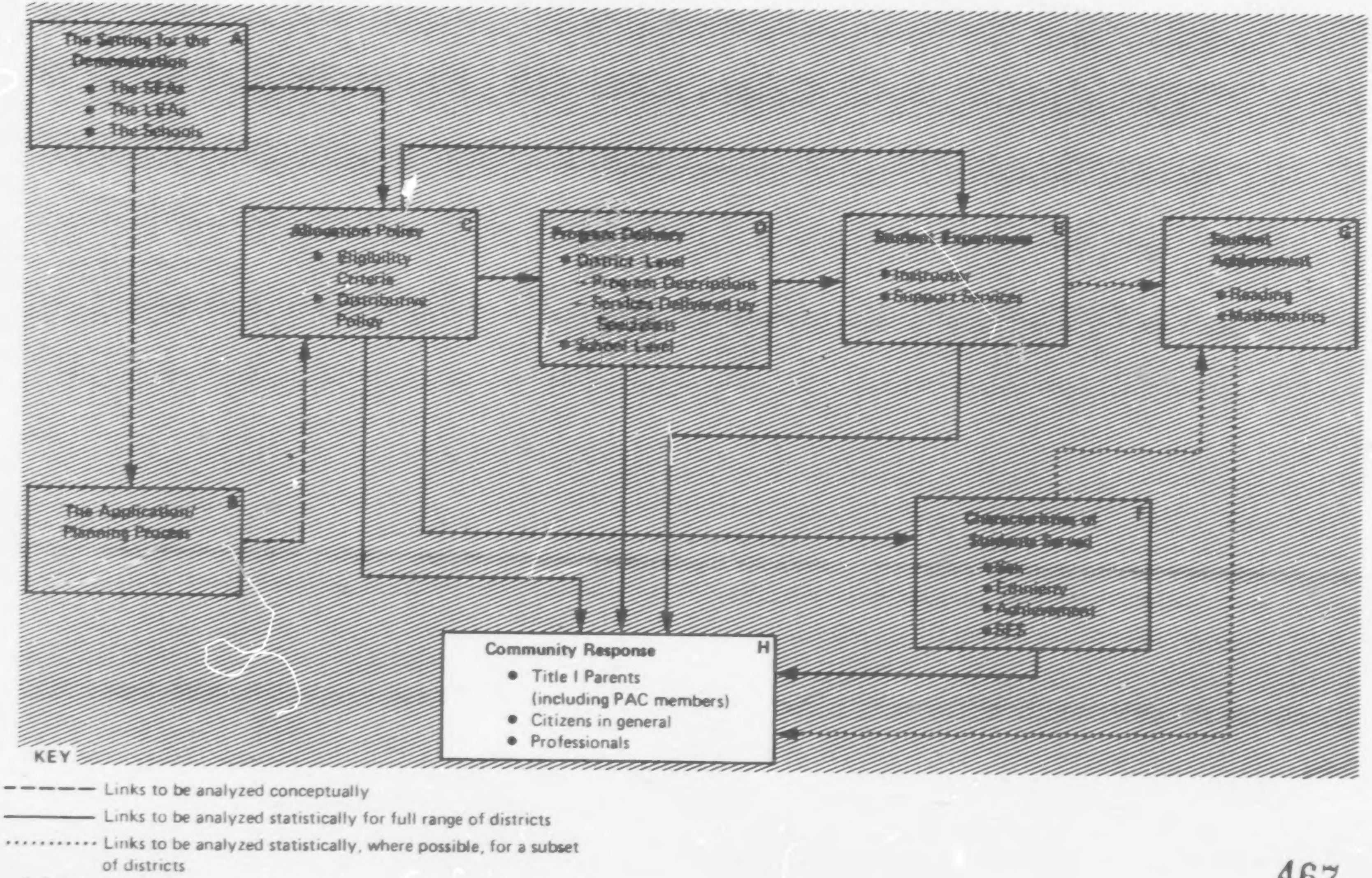
B. Comparison of two implementation years for TI students in schools which have always had TI

C. Comparison of two implementation years for "new" TI students

D. Comparison of TI students in schools which have always had TI with "new" TI students

E. Overall difference between TI and non-TI

Chapter 9
COMMUNITY RESPONSE


The Setting for the Demonstration
A
• The SEAs
• The LEAs
• The Schools
Allocation Policy
C
• Eligibility Criteria
• Distributive Policy
Program Delivery
D
• District Level
- Program Descriptions
- Services Delivered by Specialists
• School Level
Student Experiences
E
• Instruction
• Support Services
Student Achievement
G
• Reading
• Mathematics
The Application/ Planning Process
B
Characteristics of Students Served
F
• Sex
• Ethnicity
• Achievement
• SES
Community Response
H
• Title I Parents (including PAC members)
• Citizens in general
• Professionals
KEY
Links to be analyzed conceptually
Links to be analyzed statistically for full range of districts
Links to be analyzed statistically, where possible, for a subset of districts

9.0 COMMUNITY RESPONSE

Since the school is an entity firmly embedded in a community, the existence of viable community involvement is an element essential to educational efforts. Compensatory education efforts in particular require the involvement of community members because these efforts ultimately reflect the major community problems associated with economic and technological change. Thus, an examination of community members, their knowledge and participation in such programs, is an essential component of this research.

This chapter discusses community response to the Demonstration, represented by variable group H in the analytic model. Data for the analysis of community response will be gathered from two sources:

- face-to-face interviews with parents of children receiving compensatory service under Title I
- face-to-face interviews with members of the Parent Advisory Councils (PACs)

The Parent Interview is designed to meet a variety of information needs. Chief among these is to obtain accurate estimates of family characteristics of pupils receiving Title I, since the family characteristics of the students being served may change markedly as districts implement new allocation criteria. (See Chapter 7 for a discussion of this use of the Parent Interview.) Changes in program services and the students served may also affect the perceptions of parents regarding these services. Since such information may be crucial in understanding obstacles to or support for policy changes, the interview will gather information reflecting parental awareness of, participation in, and evaluation of school programs and activities.

The Parent Advisory Council Interview is designed to obtain information on the characteristics of parents who participate in PACs and the types of activities in which PACs engage. The interview will also gather information on the concerns of these parents regarding the programs and policies being tested in the Demonstration projects. It will be a partially structured, partially open-ended interview.

The analyses proposed for the study of community response are somewhat constrained by the measurement instruments. The instruments, designed to meet the information needs of the study, enable us to ask only broad generic questions of a complex series of behaviors. To this extent there are limitations upon the precision of the analytic methods which can be employed and limitations upon the depth to which the research questions can be answered.

The analyses proposed, however, are designed to provide the necessary information for policy considerations. First, a descriptive analysis of the information contained in the interviews will provide an overview of parents' awareness, preferences, and evaluations of the Title I program and the Demonstration options. These data and their interpretations will provide policy relevant discussions of community response. Second, our basic concern will be to identify variations among districts on community response and to identify those factors in the actions taken by the districts which can explain the variation in community response. From this analysis we can describe the patterns of community response, identify those factors which seem to be associated with differing responses within districts, and specify those conditions which explain variations in community response patterns among districts.

9.1 Parent Response

9.1.1 Research Questions

Data from the Parent Interview will be used to answer the following research questions:

- What are the characteristics of families served by Title I programs?
  - -- Are there differences among Demonstration districts?
  - -- Are there differences among schools within districts?
- Are parents aware of the Title I program?
  - -- Does this awareness differ by district?
  - -- Does this awareness differ by schools within districts?
  - -- Does this awareness differ by family socio-economic characteristics?
  - -- Is this awareness related to parental involvement in schools?
- How do parents evaluate Title I services?
  - -- Does this evaluation differ by district?
  - -- Does this evaluation differ by schools within districts?
  - -- Does this evaluation differ by type of family?
  - -- Is this evaluation related to parental involvement in schools?
- What are the perceived needs and goals of the Title I program according to parents?
  - -- Do these needs and goals differ by district?
  - -- Do these needs and goals vary by schools within districts?
- Are there identifiable patterns of organizational or procedural activity which differentiate school districts or schools on parent perceptions, awareness, and evaluations?

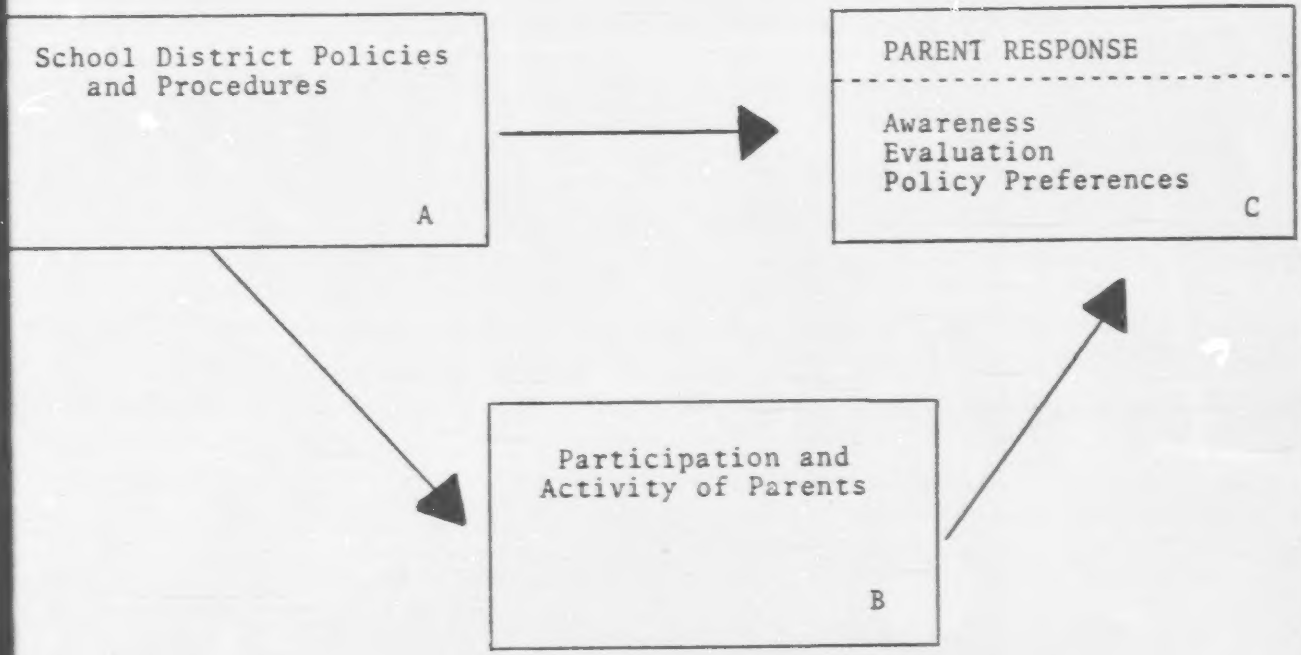
9.1.2 Research Models

Two models for the analysis of the parent data are presented in this section. The models reflect the limitations of the data collection instrument but reflect also the relationships which can be examined to produce policy-relevant findings.

The first model (Figure 9-1) shows the simple set of relationships which result from policy and actions of the school district as it currently administers Title I. The

FIGURE 9-1

BASIC MODEL FOR THE ANALYSIS OF PARENTAL RESPONSE


School District Policies and Procedures
A
PARENT RESPONSE
Awareness
Evaluation
Policy Preferences
C
Participation and Activity of Parents
B

second model (Figure 9-2) adds the socio-economic status of parents to the analysis. This addition is especially important since we expect that one effect of Demonstration implementation will be to alter the socio-economic composition of the population being served. The socio-economic status of parents is also useful for cross-sectional within-year analysis of parental response because school districts are selective in their communication with parents and vice versa. To some extent, such selective communication may be a function of family socio-economic status (SES).

As the second model indicates, we expect that parental response will be influenced by factors which are characteristic of the individual or family (i.e., parental SES and participation) and by factors which are characteristic of the school district (i.e., policies and procedures). In turn, the participation of parents is affected by their socio-economic status, and by the efforts of the schools and the school district to encourage parental participation in school activities. Therefore, while we expect the response of parents to be related to familial characteristics, we expect this relationship to interact with school district actions. Since the primary policy focus is on the actions of school districts, this factor assumes primary importance in the correlational linkage in the model.

9.1.3 Variables

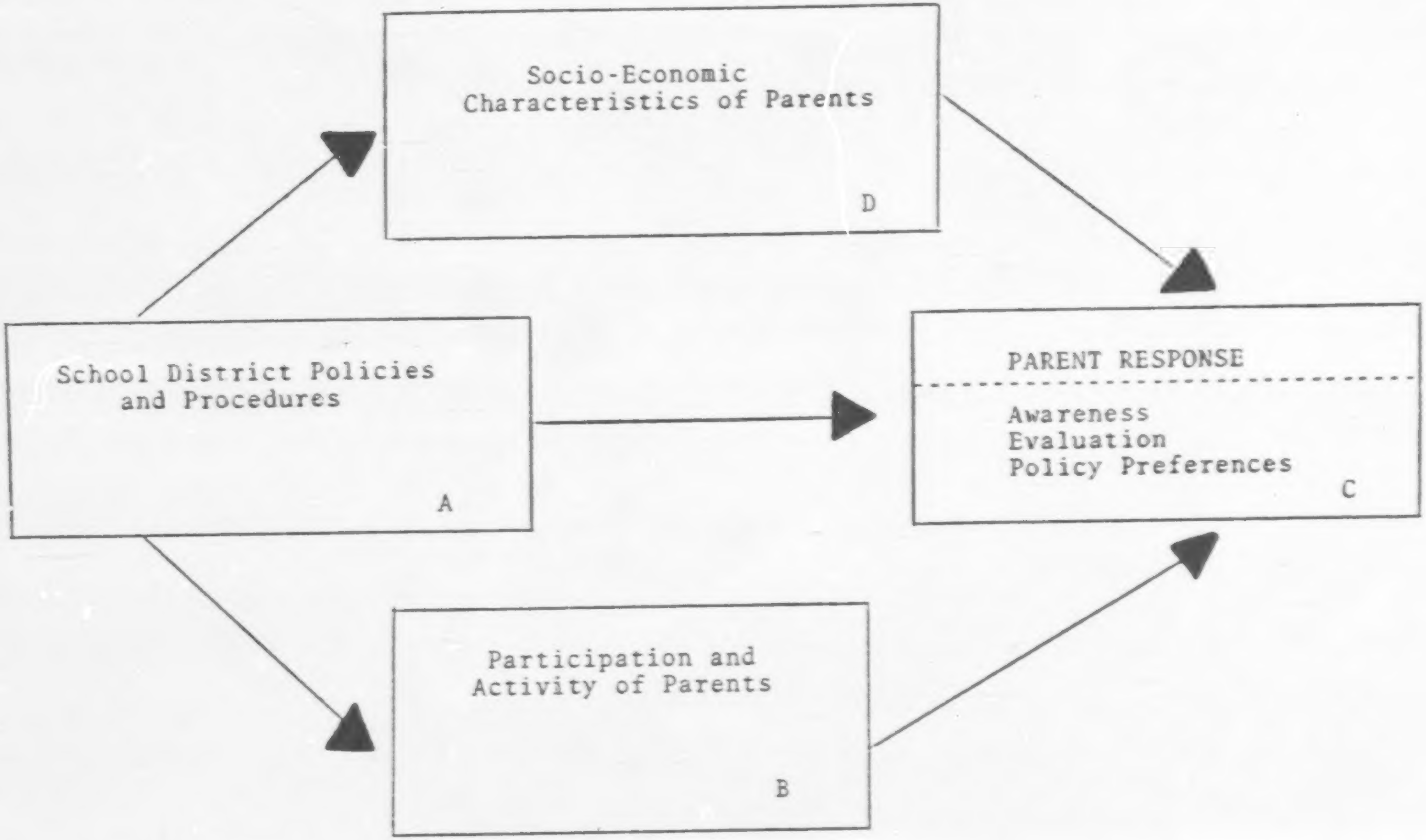
Characteristics of Families Receiving Title I Services

Presentation of data on family characteristics will provide a picture of the families of children receiving Title I services. Changes in the characteristics of the families will provide policy-relevant information on the effects of changes in the administration of Title I. These characteristics include the following variables:

- Employment status
- Educational attainment of father and/or mother
- Family income

FIGURE 9-2

SECONDARY MODEL FOR THE ANALYSIS OF PARENTAL RESPONSE


Socio-Economic Characteristics of Parents
D
School District Policies and Procedures
A
PARENT RESPONSE
Awareness
Evaluation
Policy Preferences
C
Participation and Activity of Parents
B

- Geographic mobility
- Race
- Spanish speaking
- Non-English speaking

Parental Perception of Special Services Received by Children

The variables listed below will provide a basis for the analysis of the extent to which parents perceive their children as receiving special services in the schools. Since all of the respondents will have children receiving services, the distribution of their responses will give an indication of the extent of the knowledge parents have of the existence and utilization of Title I. Changes in the distribution of awareness will document the influence of changes initiated by the Title I administration.

- Services provided for child (past and present)
    - -- Reading
    - -- Math
    - -- Counseling
    - -- Language
    - -- Smaller classrooms
- Awareness of existence of special services
- Awareness of Title I funding for services
- Enrollment of other children in special services

Parental Knowledge of Special Services Program

A further indication of the extent and depth of parental awareness is knowledge of Title I eligibility criteria and operations. This, in turn, will provide a baseline for the measurement of awareness of changes as a result of programmatic shifts. Variables included here are these:

- Knowledge of federally funded compensatory programs
- Knowledge of Title I
- Knowledge of funding of Title I
- Knowledge of Title I selection process

Community Information Sources

Parents may receive their information concerning Title I activities and programs from several different sources. These different sources reflect the effort of the school system to disseminate information to parents. The sources we will examine include:

- Information in mass media
- Discussion among friends, neighbors, relatives
- Information from schools

Parental Participation in School Activities

Parents may be more or less informed depending upon their participation in school activities. Variables of concern here are the following:

- Attendance at parent meetings, including
    - District-wide PTA/PTO, or PAC meetings
    - School PTA or PAC meetings
    - Other meetings
- Membership in parent organizations, including
    - District-wide PTA/PTO, or PAC organizations
    - School PTA or PAC organizations
    - Other organizations interested in schools
- Whether or not parents hold offices in parent organizations, such as
    - District-wide PTA/PTO, or PAC organizations
    - School PTA or PAC organizations
    - Other organizations interested in schools
- Frequency of visits to school
    - To talk with staff
    - To observe
    - To serve as volunteers
    - To attend training classes
- Whether or not parent works as an aide in the classroom

Parental Preferences

Finally, the Parent Interview will gather information on compensatory education goal preferences and preferences for Demonstration policy options. The preference choices of parents in terms of compensatory education goals are the following:

- Improving students' academic achievement
- Improving students' self-concept (self-image)
- Improving students' attitudes towards school
- Improving teaching performance
- Improving the school building or teaching equipment
- Involving parents more
- Improving education in general ways (not specific)

The preference choices for Demonstration policy options are:

- Concentration of special education services in schools which serve a large number of students which need such services;
- Distribution of special services to all children who need them, rather than only to poor students who need them;
- The use of achievement test scores as a measure of a student's accomplishments and need of special services.

Items within each group will be intercorrelated and submitted to a principal component analysis. A summary index of both preferred goals and preferred Demonstration policy options will be developed. The resulting summary indices will be intercorrelated as well.

9.1.4 Analytic Techniques

Descriptive Analysis

In order to present a context that provides policy-relevant information, data will be presented in simple description form. Means and standard deviations will be provided by district for all continuous variables, and frequency distributions for categorical variables. Since a previous analysis (see Sections 4.0 and 5.0) will have formed a typology of district characteristics, descriptive data may be presented by district type as well.

Selected variables will also be crosstabulated. Family characteristics will be the primary variable against which other variable sets will be arrayed. For example, districts will be compared in terms of the proportion of poor families who know about Title I. To facilitate the crosstabulations and to provide an initial estimate of variation, an index of socio-economic status, based on education and occupation, will be developed.

Analyses of Relationships

As stated above, the primary policy-based relationship to be investigated is that between parental responses and the policies and procedures of the schools and school districts. The characteristics of the school districts include: school district organization and legal structure; planning year activities; and implementation proposals and activities. As discussed in Chapter 4, these factors will be utilized in the development of typologies of school districts. Parental response variables include those which relate to parental awareness, participation, access to information about Title I, and preferences for compensatory services and Demonstration policy options. Parental response patterns will be related to district typologies to see if there is a significant variation in the response patterns by districts. A further analysis will attempt to establish those factors or activities which lead to variations in response patterns.

Prior to performing these analyses, a number of data reduction techniques will be employed. We have already discussed one such technique: use of principal component analysis to develop parental preference variables. Others are described here.

Two variable sets may be combined to create a "parental awareness index": parental perceptions of special services received by children and parental knowledge of special service programs. This "awareness index" will reflect the degree to which each family is aware of three major issues delineated above: services provided for their child(ren); existence of special services; and awareness of Title I funding. It is probably best, with this level of data, that an artificial index be created such that a value can be placed upon various combinations of awareness. For example, a score of 1 could be given for each positive awareness response; a score of 0 for each negative awareness response. Simple addition would provide an index. The exact nature of the index to be constructed will have to be considered after the distribution and the intercorrelation of the data are examined.

Another variable to be developed is a "parental access to information index." This variable will be constructed from the community information sources variables. To the extent that parents have affirmed receiving information from various sources, we would expect this to be a reflection of the school systems' attempts to inform the community about the special services program. Since there is no obvious reason, at this moment, to place a higher value upon one source of information over another, we expect to create an index of information by a simple addition of the number of sources mentioned by the respondent.

Finally, a "parental participation index" will be developed using principal component analysis and/or other approaches as the response distributions permit.

The analysis of the relationships among the four variable groups has several components. The initial analyses consist of characterization of the sixteen school districts using participation and activities on the one hand and socio-economic variables on the other. Using constructed indices and other continuous variates, the analysis will take the form of a simple one-way analysis of variance with district as the independent variate. A more informative analysis is possible if the school districts can be grouped into smaller sets based on policy and procedure variables. This grouping, however, depends on the results of analysis of policy and procedure, and cannot be anticipated at this time. Given that such grouping is possible, the analysis has the form of a nested design with school districts nested within some broader categories.

The second stage of the analysis attempts to explain variation in parent response in terms of the other three groups. In general this will consist of an analysis of covariance with school district and/or policy categories forming the basic grouping and socio-economic and participation variables as covariates. It is noted that this use of ANCOVA varies somewhat from normal usage in that the covariates will not be used as "adjusting" variables but as predictors in and of themselves. With this aim in mind, it becomes necessary to examine the effects of SES and participation on parent response for each school district separately. This allows for an examination of the comparability of effects across districts and implicitly gives an indication of the interaction of district, SES, and participation in predicting parent response. With reasonable similarity of these effects across the districts, the overall covariance analysis will be performed. Otherwise, the separate district analysis will form the basis for interpretation.

Generally, these within-district analyses will take the form of regression analysis using standard methods. If the predictor variables are qualitative, an ANOVA type analysis results.

9.2 PAC Response

9.2.1 Research Questions

Communities formally participate in Title I programs through the vehicle of Parent Advisory Councils (PACs). This is a requirement of Title I legislation. Parents of children in Title I programs from each school are to be chosen to sit on the Council. How parent members are chosen, their level of participation, and their knowledge of program content are all factors which can provide measures of differences among school districts as well as afford another indicator of potential success or failure of specific projects.

The purpose of the PAC interview is to provide a descriptive analysis of the role of the Parent Advisory Councils within each of the sixteen school districts. Two broad areas will be included: the participation activities themselves and the organizational relationships of the Councils to the school and its program.

The research questions with respect to participation activities are these:

- In what ways do PAC members involve themselves in compensatory education in the schools or districts?
- What types of activities do they tend to engage in the most?
- What kinds of issues do PAC members perceive as important for training?
- Who participates in meetings and training? What kinds of issues do participants discuss?
- At what school level is the participation?

Central to these issues is PAC members' perception of the effectiveness of their participation, which is closely related to their role in the organizational structure of the school district.

Organizational relationships are defined as the participatory roles that PACs have in the overall structure of the school and program decision-making matrix. The issues here concern the degree to which PACs are only advisory or have specific policy-making roles. Addressed are such questions as:

- How closely do administrators of programs work with PAC members?
- How are PAC members chosen?
- Who makes up the PAC membership?
- Do they have other roles in the system?

Both of the areas provide additional information on community responsiveness and program delivery, since the role of the PAC can be that of information disseminators and program implementers.

9.2.2 Data Sources

We will interview approximately ten PAC members in each district. The selection of this sample will be tailored to each district. The samples will be representative of the officers and most active members of the district-wide PAC and of a range of schools in the district. Interviews will consist of two parts. The first part will be a structured formal interview. This will provide standardized information across the sixteen districts that will be comparable to that collected in the nationally representative sample in District Survey I. The second part will be open-ended and conversational. It will involve a discussion of the planning year activities and the PAC's involvement in that process.

In the first part, items will be structured for the most part, but a few open-ended items will allow for elaboration where the quality of responses would be overly constrained by the close-ended format. This part will provide most of the data on participation activities, including:

- Involvement of parents in classroom activities
- Involvement of parents in policy-making meetings which affect program delivery
- Organization of activities outside of specific school programs
- Organization of other activities which contribute to or enhance the involvement of other of other community members

The second part of the interview is designed for elaboration and clarification of items introduced in the first part. It allows for more respondent opinion and reaction in particular areas. Furthermore, it is the primary data gathering instrument for perceptions of organizational relationships. Although information from school district administrators will be used to describe the organizational relationship of the PAC to the rest of the program, it is important to ascertain the PAC members' perception and definition of that relationship. Finally, the instrument probes with regard to the planning year. We hope to use the implementation plan of the schools to focus the latter part of the interview. From this information, we can describe the role of the PACs in specific policy-making decisions.

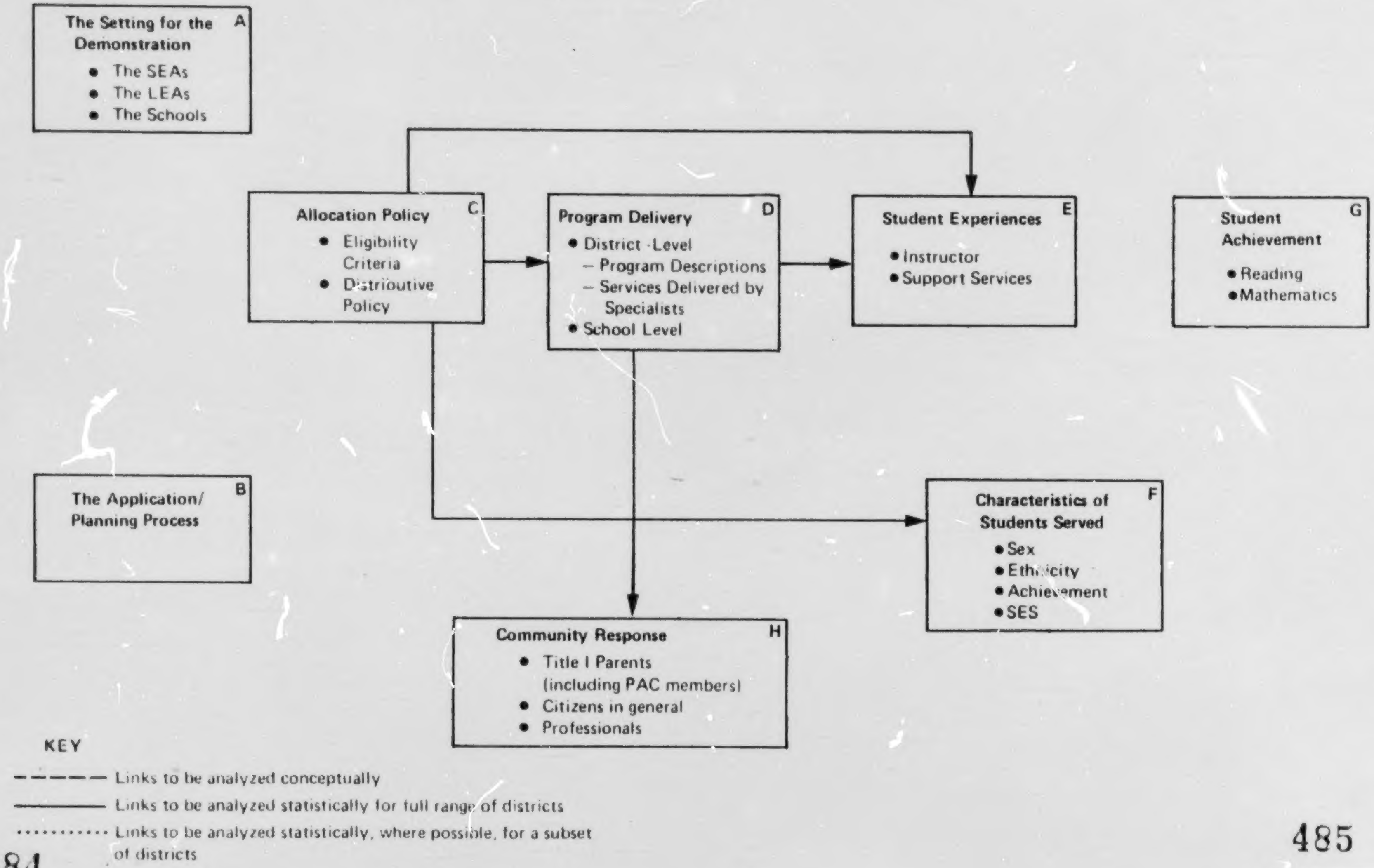
9.2.3 Analytic Procedures

The socio-economic and demographic characteristics of the PAC members responding will be part of the descriptive analysis. With respect to the general area of participation, frequency distributions and contingency analysis are the most useful methods for analyzing the data. These analyses will compare PACs across districts. For particular sets of items, scales will be developed to provide for a composite score in an area. For example, an activities score might be devised for the ten activities listed as compensatory education activities in the formal interview. This would facilitate comparison across districts and allow a more specific statement to be made about this particular facet of participation of the PACs.

The organizational relationship data will be analyzed through a content analysis case study approach. That is, interview data will be described and reported based on criteria developed for the purpose of evaluating the role of PACs in the proposed structure and comparing that to the perception of actual practice. These data will be primarily qualitative. They will be aimed at the construction of categorical and typological variables.

Chapter 10

ANALYSIS OF SYSTEMIC RELATIONSHIPS


The Setting for the Demonstration A
• The SEAs
• The LEAs
• The Schools
The Application/ Planning Process B
Allocation Policy C
• Eligibility Criteria
• Distributive Policy
Program Delivery D
• District -Level
– Program Descriptions
– Services Delivered by Specialists
• School Level
Student Experiences E
• Instructor
• Support Services
Student Achievement G
• Reading
• Mathematics
Characteristics of Students Served F
• Sex
• Ethnicity
• Achievement
• SES
Community Response H
• Title I Parents (including PAC members)
• Citizens in general
• Professionals
KEY
– – – – – Links to be analyzed conceptually
———— Links to be analyzed statistically for full range of districts
.... Links to be analyzed statistically, where possible, for a subset of districts

10.0 ANALYSIS OF SYSTEMIC RELATIONSHIPS

This section discusses the cross-sectional analysis of data collected during the baseline planning year. The approach is applicable for cross-sectional analysis during each of the three years, the planning year and the two implementation years. (The analysis of inter-year changes is presented in Chapter 11.0.) The model on the cover page of this chapter presents the variable groups and the linkages which are appropriate for the cross-sectional analyses.

The relationships which will be examined in Year I are allocation related to program delivery (Link CD), allocation related to student experiences (Link CE), allocation related to characteristics of children served (Link CF), program delivery related to student experiences (Link DE), program delivery related to community response, (Link DH), and finally the relationship among the three variable groups: allocation, program delivery, the characteristics of children served and student experience (Link CDE). Since Chapters 5-9 of this document provide detailed discussions of each of these variable groups, this chapter deals with the analysis of relationships between groups at a general level. A discussion of relationships between, or hypotheses about, specific variables within one group versus specific variables within another group is not the intent of this chapter because these are suggested in the chapters on the variable groups.

In Section 3.2.1 we discussed the basic analytic model. We pointed out in that section that the links indicated by solid lines are those which are most relevant to the objectives of the research, and those which we are most confident we can measure. The only such link which is omitted from this discussion is the link between allocation policy and community response. Because allocation policy is established by federal regulations during the planning year, there are no LEA policy decisions which are likely to provoke responses which vary from district to district, especially not in the objectively and quantitatively measured component of community response--Title I parents' attitudes. Community response could vary as a function of demographic or political characteristics of the districts, but with the selective group of districts we are studying, our analysis of this cannot be very precise. We do expect that the policy decision to change allocation policy could induce community response, and, thus, it is included in the analysis of change.

The only three-variable link examined is that going from allocation to program delivery to student experiences (Link CDE). This link is the most central to the research objectives. The design is constructed to measure this link most precisely. While it might be interesting to explore multiple links to community response, we think this exceeds the capability of our design.

The bivariate relationships of the allocation group with program delivery (CD), with student experiences (CE), and with the characteristics of children served (CF) variable groups will be examined at the district level. With the district as the unit, two types of analyses are possible, correlation and analysis of variance. An examination of the differences in sample sizes for district (16) and student experiences or student characteristics (5802) or school level program delivery (524) shows the need to aggregate data from the latter three variable groups up to the district level. The mean for all people in district A for a variable in the student experience group, for example, would be the data point that is paired with district A's distributive policy variables, when correlational analyses are used. Information is lost by aggregating data, but there is no alternative when the analysis dictates a one-to-one matching of data points, as in correlational analysis. The small number of cases, when the district data alone are the units, will be handled by using a non-parametric measure of correlation, Spearman's rank order coefficient and Gamma.

Some analyses of the district level allocation variables may allow for categorizing the districts into fewer than sixteen "district types." (See Section 5.0 for examples of how this will be done.) These district types will then be used as levels of a district factor in an analyses of variance. The dependent measures will be variables from the student experience, student characteristics, and the school level program delivery variable groups. This type of analysis will enable us to identify the relationship between differing district-wide allocation plans and the other three variable groups. With the analysis of variance model, variables in the student experience, student characteristics, and school level program delivery groups will not have to be aggregated up to the district level as in the correlational analysis.

Depending upon whether the focus of the question being asked deals with differences between types of districts or the relationship between how districts rank order on an allocation variable versus how they rank order on an outcome variable (e.g., student experiences or characteristics of students receiving Title I services), analysis of variance or correlation, respectively, will be used as a means of analysis.

Analyses of the relationship of program delivery to student experiences or community responses will be performed using both the district and the school as the unit of analysis. When the district is the unit, correlational analysis and analysis of variance techniques will be used in a manner identical to the one described previously for examining the relationships of the allocation change variable group to other variable groups in the system.

The remainder of the analyses, dealing with the relationships between program delivery variables at the district level with student experience (Link DE) and with community response variables (Link DH) will be correlational in nature. (Categorical variables will be dummy coded, and this set of dummy-codded variables used in the correlational procedures.) When school level program delivery variables are used, the measures in the other two variable groups will be aggregated to the school level. The sample size (524) is sufficiently large in this case to use the parametric correlation coefficient, Pearson's product-moment coefficient.

In addition to simple correlations, a series of multiple correlations between a set of program delivery variables (independent variables) and a variable in one of the other two variable groups (dependent variable) will be examined through multiple regression analysis. In addition to yielding a multiple correlation coefficient, the regression analysis will give weights for the program delivery variables which allow for comparisions of the relative importance of these independent variables in relation to the dependent variables Thus, the major focus of this analysis will be on the regression coefficients. We expect a relatively large proportion of unexplained variance and thus a low R^2. The advantage of these weights over the simple correlations of each of the program delivery variables with a variable from one of the other two variable groups is that the intercorrelations among the program delivery variables are taken into account with the multiple regression approach.

We will extend the multiple regression analysis, i.e., correlating a set of variables with one variable, by correlating a set of variables with another set of variables. This approach is canonical correlation analysis and its advantage over a series of multiple regression analyses is that it takes into account the intercorrelations of the dependent as well as the independent variables. The major drawback with canonical correlation is that the results are sometimes difficult to interpret. The statistical analysis is a few steps removed from the concrete policy variables of interest and, thus, not easily interpreted. Canonical correlations between a set of program delivery variables and a set of student experience or community response variables will be examined and interpretations of the results will be suggested.

Analogous techniques will be used to investigate the relationship between student experience and community response variables (Link EH). Because the parents in the sample are parents of Title I students in the sample, a one-to-one pairing of variables in these two groups exists at the parent/student level and no aggregation of units is necessary. Simple multiple and canonical correlations between variables in these two groups will be examined.

The final link to be analyzed in the model involves the interrelationship of the three variable groups: allocation, program delivery, and student experience (Link CDE). Analysis of the pairwise relationships of these three variables groups has been discussed above. The interest in examining the higher-order interrelationship is to determine the extent to which they work independent of the program delivery variables. The problem can be examined by determining the unique and shared proportions of variance in the student experience variables explained by the allocation and program delivery variables. In this analysis, district allocation policy would be entered as dummy variables. These proportions of variance are easily obtained from the pairwise correlations of these variable groups. This approach is often referred to as commonality analysis.*

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*Depending on the results of the canonical correlation analysis and the regression analysis path models will probably be developed and analyzed.

Finally, the relationship of the three school types involved in this study--schools currently receiving Title I services, schools receiving Title I services in the implementation years (76-77 and 77-78) only, and schools not receiving Title I services at all--to some of the systemic relationships discussed in this chapter is of interest and will be examined.

The instances in which data are available from more than one school type are the same as those for which analysis of variance, using district type as one factor, was the proposed analytic method. For these analyses, school type will be used as a second factor in a two-factor analysis of variance, so that the relationship of school type to some of the variables or the interaction effect of school types with district types on these variables will be determined.

The intent of the cross-sectional analyses proposed in this chapter is to present as comprehensive a picture as possible of the interrrelationships of the variable groups: allocation, program delivery, student experiences, student characteristics, and community response presented in the analytic model. The proposed analyses for examining these interrelationships are summarized in Table 10-1. These relationships are essential for an understanding of the model and take on added importance in the subsequent years of the study when changes in these relationships will be examined. Our analytic approach to the study of such changes is presented in Chapter 11.0.

TABLE 10-1

PROPOSED CROSS-SECTIONAL ANALYSES FOR EXAMINING THE RELATIONSHIPS BETWEEN LINKS IN THE MODEL FOR YEAR I

Link*	Analytic Method
$C_{16}D_{16}$	Spearman correlation
$C_{<16}D_{524}$ (Districts Grouped)	Analysis of variance
$C_{16}E_{16}$	Spearman correlation
$C_{<16}E_{5802}$ (Districts Grouped)	Analysis of variance
$C_{16}F_{16}$	Spearman correlation
$C_{<16}F_{5802}$ (Districts Grouped)	Analysis of variance
$D_{16}E_{16}$	Spearman correlation
$D_{<16}E_{5802}$ (Districts Grouped)	Analysis of variance
$D_{524}E_{524}$	Pearson correlation, multiple regression, and canonical correlation
$D_{16}H_{16}$	Spearman correlation
$D_{<16}H_{1187}$ (Districts Grouped)	Analysis of variance
$D_{524}H_{524}$	Pearson correlation, multiple regression, and canonical correlation
$E_{5802}H_{5802}$	Pearson correlation, multiple regression, and canonical correlation
$C_{16}D_{16}E_{16}$	Commonality analysis, Path analysis

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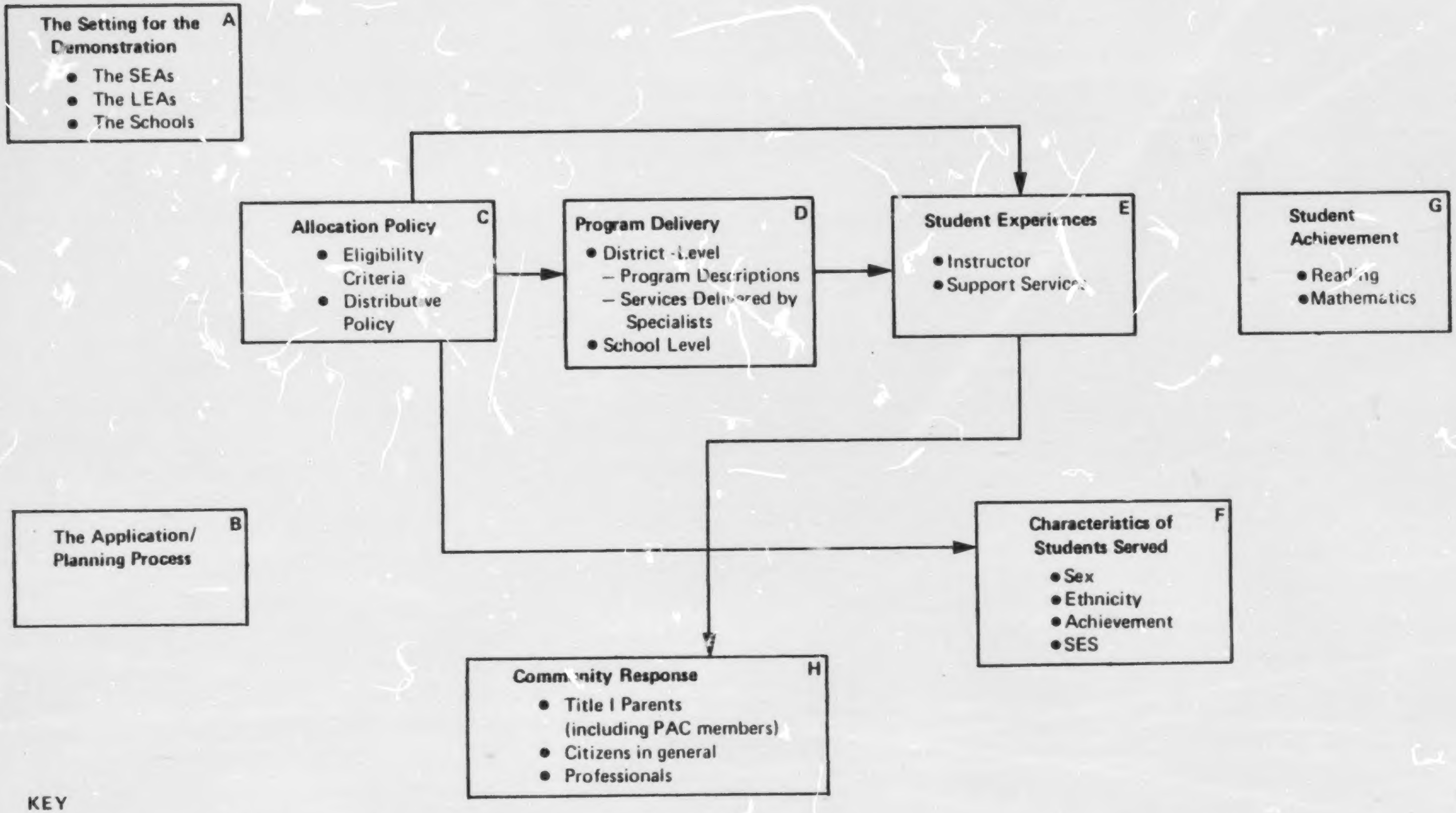
*The subscripts indicate the sample size for each variable group in the proposed analysis.

Chapter 11

ANALYSIS OF CHANGE IN SYSTEMIC RELATIONSHIPS


The Setting for the Demonstration A
• The SEAs
• The LEAs
• The Schools
Allocation Policy C
• Eligibility Criteria
• Distributive Policy
Program Delivery D
• District-Level
– Program Descriptions
– Services Delivered by Specialists
• School Level
Student Experiences E
• Instructor
• Support Services
Student Achievement G
• Reading
• Mathematics
The Application/ Planning Process B
Characteristics of Students Served F
• Sex
• Ethnicity
• Achievement
• SES
Community Response H
• Title I Parents (including PAC members)
• Citizens in general
• Professionals

KEY

– – – – – Links to be analyzed conceptually

——— Links to be analyzed statistically for full range of districts

………… Links to be analyzed statistically, where possible, for a subset of districts

11.0 ANALYSIS OF CHANGE IN SYSTEMIC RELATIONSHIPS

The analysis of systemic changes reflects the key function of the research model, i.e., the examination of the effects of changes in allocation policies on schools and community. This analysis re-examines the systemic relationships detailed in the section on the basic model (Section 3.2.1) with a view toward locating those which vary from year to year. Specifically, the analysis will include the relationships between allocation policy and program delivery (Link CD), student experiences (Link CE), and student characteristics (Link CF), between program delivery and student experiences (Link DE) and community response (Link EH).

The relationships in one three-variable group will also be examined: allocation, program delivery, and student experience (Link CDE).

The time change can be interpreted in two ways in the context of this study. Each corresponds to a different policy question and results in a different type of analysis. The first interpretation refers to relationships identified using the methods of the previous section. The implementation of allocation change may have system-wide influences which change some of the relationships. One might find, for example, that the correspondence between program delivery and student experiences changes as a result of the increased load placed on existing resources. This question thus deals with the cross-sectional relationships as they occur over time.

The second interpretation is concerned with the influence of one sector on another. More specifically, it is concerned with how changes in one group of variables relate to changes in another group. While the previous interpretation was concerned with changes in relationships, this interpretation is concerned with relationships among changes. Each of these approaches to the analysis will be presented in turn.

11.1 Changes in Relationships

In its simplest form the analysis of changes in relationships consists of a comparison of correlation coefficients and other measures of association as described in Table 10-1 across each of the three years. Thus, for instance, the correlation between a program delivery variable and a student experience variable would be computed separately for the baseline and implementation years and statistically compared. Care must be taken to use the appropriate statistical comparison. All comparative statistics have various alternative forms whose use depends on the independence of the quantities compared. Thus, a comparison of two correlation coefficients can take one of two forms depending on whether they are computed from the same or different populations.*

The choice of which to use in any instance will depend on the unit of analysis, and consequently, on the level of aggregation. Correlations of the allocation variables with others will normally be considered to come from the same populations. Even though the respondents may be different in different years the responses are still considered to be "from" the school district and therefore from the same population every year. Student experience data, on the other hand, are likely to come from different individuals in different years. As long as these are not aggregated to a higher level they may be considered independent. Thus, correlations of student experience data and parent data can be considered independent from year to year.

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*Helen M. Walker and Joseph Lev, Statistical Inference (New York: Holt, Rinehart and Winston, 1953), pp. 255-257.

A number of techniques are available for the more general multivariate case. Chow, for instance, has devised a method for comparing two regressions.* This method was originally developed for use in analysis of variance problems where regressions may not be equal across all groups. Essentially, differences between corresponding regression coefficients for the two samples are computed and tested.

Extension of this method to canonical and discriminant analysis is more difficult. While the estimate of R^2 provided by these methods can be subjected to test like any other correlation coefficient, the canonical variates themselves are difficult to compare across time due to the complexity of the underlying distribution functions. At a cruder level, however, tests are available for comparisons of multivariate data sets. Entire correlation matrices can be compared using a multivariate analogue of the t-test.**

Generally speaking, the analysis of changes in systemic relationships consists of the comparison of corresponding parameter estimates across the three time points. These tests are available for most of the univariate statistics for analysis of variance and regression models. A few tests are available for multivariate models, especially where the predictor set is categorical, but it may be necessary to rely on global statistical tests while more refined comparisons are made judgmentally.

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*Gregory C. Chow, "Tests of Equality Between Sets of Coefficients in Two Linear Regressions," Econometrica, 1960, 28(3), pp. 591-605.

**Donald F. Morrison, Multivariate Statistical Methods (New York: McGraw-Hill, 1967).

11.2 Relationships Among Changes

The analysis of these relationships will rely on the ability to identify change, either through direct measurement or by classification methods. For continuous variates it is possible to assess change using direct difference scores. These may then be correlated with or regressed on other differences to examine relationships with changes in other sectors. These difference measures tend to have reliability problems,* which are more severe the lower the reliabilities of the component scores. This has the effect of attenuating the correlation coefficients, and consequently, the regression coefficients. Thus, measures with poor reliability will produce conservative estimates of relationships.

Where the variables are not continuous or ordinal, difference scores makes little sense. In this case a classification of the unit (district, school, pupil, parent) by the type of change results in a typology which can be used in cross-tabulation or in analysis of variance. Say, for example, that data on compensatory versus basic programming is dichotomous. A table might be constructed as follows:

		Implementation Year	
		Compensatory	Basic
Baseline Year	Compensatory	A	B
	Basic	C	D

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*Lee J. Cronbach and Lita Furby, "How We Should Measure 'Change' or Should We?" Psychological Bulletin, 1970, 74, pp. 68-80.

This classification identifies four groups who received different patterns of service over the two years. This classification might be used as an indicator of change in further analysis.

Once a direct measure of change or a classification is available, the methods discussed in Chapter 10 can be used. The same attention must be paid to the nature of the resulting variable and the appropriate level of aggregation, so that appropriate statistical methods are used.

Table 11-1 summarizes the techniques to be used in the analysis of systemic change. It separates the two types of change analysis described in this chapter. The first column outlines analytic methods to be used for the comparison of relationships across years. The second column outlines analytic methods for the relationships among changes. In most cases the methods are similar for the two types of analyses. In a few cases, we do not plan analysis of the relationships among changes because the attenuation problems would be too great. In other cases, analysis of variance is substituted for Spearman's correlation because of attentuation problems.

TABLE 11-1

PROPOSED ANALYSES FOR EXAMINING THE RELATIONSHIPS BETWEEN LINKS IN THE MODEL FOR YEAR 1

Link*	Comparison of Relationships Across Years--Analytic Method	Relationships Among Changes--Analytic Method
$C_{16}D_{16}$	Spearman correlation	Analysis of variance
$C_{16}D_{524}$ (Districts grouped)	Analysis of variance	Analysis of variance
$C_{16}E_{16}$	Spearman correlation	No analysis
$C_{16}E_{5802}$ (Districts grouped)	Analysis of variance	Analysis of variance
$C_{16}F_{16}$	Spearman correlation	No analysis
$C_{16}F_{5802}$ (Districts grouped)	Analysis of variance	Analysis of variance
$D_{16}E_{16}$	Spearman correlation	No analysis
$D_{16}E_{5802}$ (Districts grouped)	Analysis of variance	Analysis of variance
$D_{524}E_{524}$	Pearson correlation, multiple regression, and canonical correlation	Pearson correlation, multiple regression, and canonical correlation
$C_{16}H_{16}$	Spearman correlation	No analysis
$C_{16}H_{1187}$ (Districts grouped)	Analysis of variance	Analysis of variance
$C_{524}H_{524}$	Pearson correlation, multiple regression, and canonical correlation	Pearson correlation, multiple regression, and canonical correlation
$E_{5802}H_{5802}$	Pearson correlation, multiple regression, and canonical correlation	Pearson correlation, multiple regression, and canonical correlation
$F_{2901}H_{2901}$	Pearson correlation, multiple regression, and canonical correlation	Pearson correlation, multiple regression, and canonical correlation
$C_{16}D_{524}E_{5802}$	Commonality analysis, Path analysis	Commonality analysis, Path analysis
$D_{524}E_{2901}H_{2901}$	Commonality analysis, Path analysis	Commonality analysis, Path analysis
$C_{16}E_{2901}H_{2901}$	Commonality analysis, Path analysis	Commonality analysis, Path analysis

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*The subscripts indicate the sample size for each variable group in the proposed analysis.

12.0 COST STUDY

12.1 Introduction

The Demonstration allows 13 districts to redefine intra-district allocation policy in order to redistribute Title I services.* Although funding procedures to the LEA have not changed, many of the Demonstration LEAs intend to increase the number of schools and/or students receiving Title I services. It is expected that this change will cause change in the resource mix used for Title I and therefore lead to changes in program costs and/or per student costs in Title I. The basic research objective of the cost study is:

- to determine the effects of change in eligibility and allocation criteria for Title I programs upon changes in resource use and resource cost.

In order to meet this objective, the cost study will identify and measure any changes in Title I services, program resource use, and program costs in order to determine if the Demonstration LEAs provide increased or decreased Title I services for the same amount of Title I funds under different allocation policies.**

A modified version of a segment of the Analytic Model used throughout the analysis is presented in Figure 12-1 below. Boxes C (Allocation Policy) and D (Program Delivery), which represent policy issues, are directly related to Title I program resource use and costs. They are repeated exactly as in the Analytic Model. However, other factors, in addition to Allocation Policy, can determine what resources are used for Title I programs and hence the costs of Title I programs. Therefore, for the cost study the model has been modified as shown.

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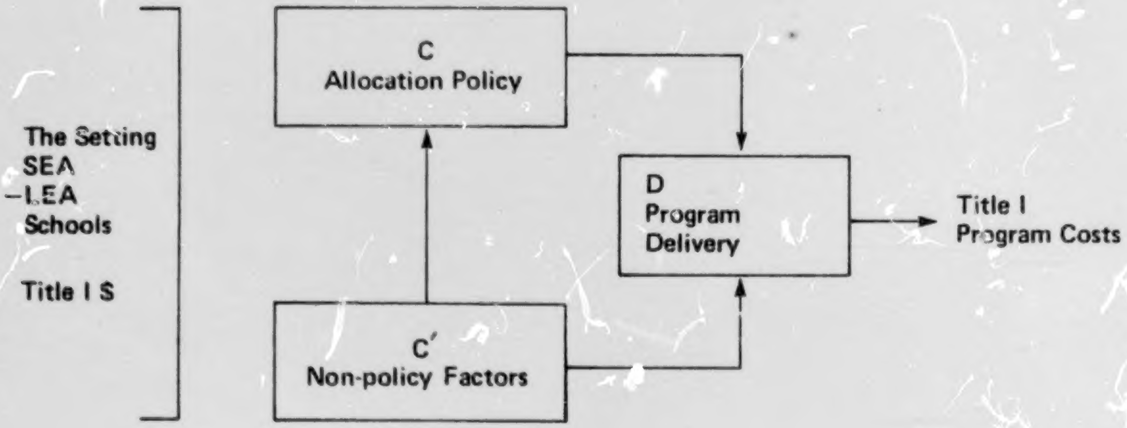
*For a more complete discussion of allocation policy, see Part I above.

**The amount of Title I funds received by an LEA is determined at federal and state levels, as described in Section 2.1 of this report. Although the amount of funding and how it is determined is important, this cost study will concentrate on the effects of policy on intra-district allocation

Figure 12-1

DEMONSTRATION COST STUDY MODEL



The Setting: The State Education Agency (SEA) distributes the Title I funds it receives from the federal Title I office to the Local Education Agency (LEA). The LEAs, in turn, distribute funds (or resources purchased with Title I funds) to individual schools.*

Box C: Allocation Policy is composed of two major steps. At the school level, each LEA determines eligibility, targeting, and distribution of resources. Similarly, at the student level, eligibility, targeting and the distribution of resources are determined. The primary focus of the cost study will be the numbers of schools and students which receive Title I services and what the pattern of resource distribution to students and schools is for each year of the Demonstration Study.

Box C': Factors other than allocation policy (or non-policy factors) affect resource distribution. These factors fall into three groups: a) availability of LEA resources b) LEA characteristics, and c) unit cost differentials among districts. The individual LEAs' abilities to donate resources to Title I programs, and district characteristics such as the presence and effects of other (non-Title I) compensatory programs and the relative costs of resources are examples of (a), (b), and (c), respectively, which are likely to influence how an LEA selects resources to be used for Title I programs. Such considerations are likely to be highly interdependent with both choice of allocation policy and program delivery.

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*For a detailed description of this process, see Part I, Chapter 2.

Box D: Program delivery will be described in terms of the actual resources used for Title I programs for which a dollar cost may be defined. Such resources include administrative and instructional personnel, materials and equipment, and physical facilities.

In addition, Box D will describe the amount and type of services which result from use of those resources. Amount of services will be defined by hours and type of instruction. Type of instruction will be described by staffing pattern, class size, and length of program.

Box D will use as measures per-student costs, per-student FTE costs, and per-hour-of-instruction costs, as well as total costs.

The arrows between boxes indicate links between the connected sets of variables. The effects of allocation policy directly influence program delivery (C-D). Non-policy factors also influence resource choice, and therefore have an effect upon program delivery (C'-D) and, ultimately, program costs. In addition, non-policy factors influence the choice of allocation policy (C'-C).

12.1.1 Focus of the Cost Study

The primary unit of measurement and analysis will be the individual LEA. Comparisons of resource use and cost will be made among districts each year and between years as well as among groups of LEAs using similar allocation policies and/or LEAs with similar Title I programs. Within each district Title I programs will be divided into program components (according to the type of program activity) and further sub-divided into activity units (again by type of activity) where appropriate.* Each LEA and all program breakdowns will be described by the type, amount, and costs of resources used as well as by student and school type. Thus, these types of comparisons can be made for all LEAs and their Title I programs and can be disaggregated down to individual types of resources.

12.1.2 Cost-Effectiveness Aspect of the Cost Study

An important aspect of the cost study is to identify the costs associated with the sets of resources which districts use to provide Title I services. As mentioned above, the cost study will determine the costs of the resources which LEAs use to provide Title I services to students. In order to do this, the study will identify the types and amounts of services offered by the LEAs during the Demonstration, the resources which the LEAs use to produce these services, and the total costs associated with these services, thereby providing policy-makers with information about the costs of different types of Title I services. In this way, the types and amounts of services and their costs can be associated with the various allocation policies implemented by the LEAs. Thus, the cost study will identify and compare the types and amounts of services provided by LEAs using various allocation policies in terms of costs so that those policies which are relatively more cost-effective can be identified.

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*Other parts of the Demonstration research concentrate on across-school variation in Title I services received by students. By focusing on the LEA rather than school type allocation, the cost study provides a means of looking at allocation across programs and across districts, thus identifying program variation which may contribute to across-school variation.

12.1.3 Organization of the Remainder of Chapter 12

The remainder of this chapter will discuss the modified analytic model (Figure 12-1). This discussion is organized as follows:

Section 12.2

Allocation policies to be used by Demonstration LEAs (Box C)--definitions for cost study purposes.

Section 12.3

Other factors likely to influence Title I resource use and costs (Box C')--definitions.

Section 12.4

Hypotheses about 1) the effects of allocation policy and other factors on program delivery (Links C/C'-D) and on program costs; and 2) effects of non-policy factors on choice of allocation policy (Link C'-C).

Section 12.5

Program delivery: 1) data collection, data description, and data sources; and 2) measurements and analysis of the effects of allocation policy and other non-policy factors on program delivery (Link C/C'-D).

12.2 Changes in Allocation Policy (Box C)*

The type of Title I allocation policy used by the Demonstration districts will determine how many schools and students receive Title I services and will also influence the type of resources used, thereby influencing Title I costs.

12.2.1 School Eligibility

Eleven of the 13 Demonstration districts have elected to substitute achievement measures in 1976-77 for poverty measures used in 1975-76 to determine school eligibility. The procedures used by the Demonstration LEAs are categorized into four types of school eligibility policies:

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*This study outlines allocation policy for use in the cost study. For a more detailed description of allocation policy during the Demonstration, see Part I and Chapter 5.0.

1. Direct LEA to Student Allocation: Seven districts have chosen to bypass "school" as a factor in eligibility and targeting: all schools (within a grade span) are eligible for and receive services.

2. Substitution of Achievement for Poverty: Two districts have elected to establish arbitrary achievement cut-offs for school eligibility: any school with a specified percentage of students performing below a given percentile on a standardized test will be deemed eligible for compensatory services.

3. Educational Need with Poverty Hold-Harmless: Two districts have chosen allocation policy type (2) with an additional "hold harmless" provision that allows schools previously served under poverty eligibility guidelines to continue to be served.

4. Poverty: The remaining two districts have elected to continue using poverty criteria to select eligible schools.

12.2.2 School Targeting

Table 12-1 indicates that the most important change in school targeting is that 12 of the 13 districts have increased

TABLE 12-1

CHANGES IN SCHOOL AND STUDENT TARGETING

Type of Allocation Policy	Number of Districts	Number of Districts Increasing the Number of Schools Served	Schools Served 1976-77/1975-76 x 100	Range of Percent of Increase	Students Served 1976-77/1975-76 x 100
1. Direct LEA to student allocation	7	7	210%	120%-320%	139%
2. Substitution of Achievement for Poverty	2	2	151%	116%-185%	121%
3. Educational need, poverty hold-harmless	2	2	115%	112%-117%	110%
4. Poverty	2	1	105%	100%-110%	172%

the number of schools served. This is particularly true in Type 1--"Direct LEA to Student" districts where the average number of schools served has more than doubled.

12.2.3 Distribution of Title I Resources to Schools

Because the number of schools targeted for Title I services in 1976-77 has increased, the average funding per school can be expected to decrease if the overall level of Title I funding remains constant. However, the amount of the per school decrease in funding will not necessarily be constant across schools because the procedures for distributing resources to schools have also changed. In 1975-76, a variety of distribution formulas and procedures were used to distribute resources to schools. The range of formulas included use of the number and/or proportion of low-income students to the incidence or severity of educational need. In 1976-77, 11 of the 13 districts are distributing funds to schools according to the number of educationally needy students in each school. The effects of changed distribution of Title I funds to schools do not have clear implications for change in program costs until student eligibility and targeting are also considered.

12.2.4 Student Eligibility and Targeting

As links in the allocation "chain," the student eligibility and student targeting procedures are perhaps least affected by the Demonstration. In 1976-77, as in 1975-76, student eligibility for Title I services was determined by achievement level cutoffs. While the cutoff level may have changed in 1976-77, the procedures for targeting have remained the same. Table 12-1 indicates that in general the numbers of students to be served will increase during the Demonstration. However, the numbers of students targeted in 1976-77 has increased in 11 districts and decreased in the remaining two districts (see Appendix A). Thus, if Title I funds remain constant, Title I expenditures per student are expected to decrease in those districts which have increased students served, and to increase in those which have decreased students served. However, the change in funding per student may not be constant across students unless type and distribution of services remain constant.

For purposes of the cost study, the most important result of both school and student targeting procedures is the change in the number of schools and/or students who receive Title I services. If a change in allocation procedure involves a simultaneous change in type or distribution of Title I services, the amount and/or composition of student services (Box D) is expected to change. Such changes are expected to affect program total and/or per student costs. Therefore, for the cost study, the various allocation policies will be treated in terms of their effects on school and student targeting. That is, policy will be identified in terms of the magnitude of change in numbers of schools and numbers of students targeted for the Demonstration.

12.3 Non-Policy Factors (Box C')

Since Title I fund use occurs within the district context and Title I funds represent a relatively small portion of district expenditures (generally less than 8%), it is important to consider the effects of other district characteristics on Title I fund allocations.

District characteristics which, in addition to allocation policy, are likely to influence Title I resource use and cost may be described as three groups of factors: district resources, contextual characteristics, and unit cost differentials among districts. It should be noted that these factors are likely to be interdependent and that although they are treated separately here for purposes of definition, their effects are likely to be related to one another.

The three groups of factors and how they may influence program costs are defined below:

(1) Of the three groups of factors above, availability of other resources for use in Title I, is likely to be the most important.* If an LEA is able to expand Title I services without receiving increased Title I funds, it is likely that additional resources necessary to expand services will come from an internal reallocation within the district. Thus, the ability and willingness of a district to supplement the Title I funds it receives with other resources are likely to have a strong effect on Title I resource use and cost. For example, a district which has an abundance of instructional materials and allows them to be used for Title I activities may be able to hire more instructional staff with Title I funds, thus providing Title I services to more students than it would if it has to use its Title I funds to purchase materials.

a) Program Expenditures vs. Total Costs--In order to determine the amount of resources used in Title I programs which are not purchased with the current year's Title I funds, the cost study will describe resource use and cost of Title I programs in terms of 1) Title I program fund expenditures by type of resource, and 2) total program costs which describe the actual or estimated costs of all resources used by a Title I program, whether or not they were purchased with current year Title I funds. This important conceptual distinction will be made by describing fund expenditures and total program costs for each Title I program in the Demonstration.

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*For a program such as Title I compensatory education, federal funding is the primary means of implementing social policy. When Title I was legislated, Congress was, in effect, spending public funds to provide resources which would produce socially desirable effects; in this case, the desired effect is improved educational services for children who are from low-income backgrounds and/or are educationally "disadvantaged." One way of examining Title I funding is by regarding those funds as "seed" money. That is, Title I is intended to provide funds with which districts could initiate compensatory educational efforts with the aim that ultimately the district would assume responsibility for additional compensatory services. Assessing the extent to which districts supplement Title I programs with their own resources indicates the effectiveness of federal Title I funds as "seed" money.

(A description of how these will be identified and measured follows in Section 12.5.)

Program fund expenditures are defined as the expenditures made by the district for different types of resources with current year Title I funds. Thus, the program fund expenditures description of Title I resource use describes how each district spends its Title I allocation each year of the Demonstration.

Total program cost is defined as the cost of every resource used whether or not the resource was purchased with the current year's Title I funds. Total costs include resources contributed by the LEA (such as physical facilities, or non-Title I administrative or instructional staff time), imposed private costs (such as volunteer time or private purchase of materials), and use of resources purchased with Title I funds in prior years. Total program costs describe the costs of all resources utilized in a Title I program for one year, regardless of the source.

The ratio of program fund expenditures to total program costs indicates the extent to which the program funds received by the district reflect the actual resource cost of the program. If total program costs are significantly greater than fund expenditures, the magnitude of the difference indicates the extent to which the present program utilizes and is supplemented by either non-program and/or previously-purchased program resources. If program fund expenditures are significantly larger or different from total costs, investment from the current year's program fund expenditures in resources which are used for more than one year is suggested. Observed differences between program fund expenditures and total costs will be defined in terms of resource type and resource source.

b) Other means of determining the availability and use of district resources for Title I activities include assessments of the physical facilities of the district and its general wealth and identifying the existence of scale economies in resource use. Both the availability of physical facilities and the general fiscal condition of the LEA indicate the extent to which the LEA has resources to make available to Title I. The most important of this will be the availability and amount of any Title I carryover funds (unspent funds from previous Title I allocations) and resources from other compensatory programs. The existence of scale economies will be influenced by the nature of the costs of both district and program resources, i.e., whether they are fixed or variable. It is likely that the existence of an economy of scale will influence LEA choice of resources.

(2) Contextual characteristics, such as the history of Title I in the district, school population characteristics, and policy shifts in district pedagogical objectives are contextual characteristics which may influence resource choice for Title I. The demographic composition of the student population and enrollment trends will affect district pedagogical objectives, Title I history, and the presence of other compensatory programs.

(3) The cost of individual units of resources, such as teacher salary, will also affect what resources the LEA chooses to use to provide Title I services. Unit costs, over which the LEA has no control and which are likely to vary significantly among the Demonstration Title I programs, are personnel salaries, fringe benefits for staff, and indirect charges. If the Title I program uses instructional personnel, it probably will pay the salary and the amount of fringe benefits that other similarly qualified teachers in the district receive. The cost of instructional staff relative to other instructional resources, such as audiovisual equipment, is likely to influence LEA choice of resources. Thus, a district which faces teacher salaries which are high relative to other instructional resources, for example, may be less likely to use teachers as program resources than a district in which teacher salaries are relatively lower.

12.4 The Effects of Non-Policy Factors on LEA Choice of Allocation Policy (C' → C)

It is important to note that the non-policy factors which are related to district and program costs (Box C', Figure 12-1) are very likely to influence LEA choice of allocation policy. As described in Section 12.3, those factors are: 1) district resources and their availability to the Title I program; 2) contextual characteristics; and 3) unit costs of individual resource.

District resources which are available for Title I activities can be expected to affect both the nature of the program offered and the extent to which the LEA extends Title I services to more schools and/or more students. For example, if a district is not physically crowded, a pull-out Title I program (in which students receive Title I services in a classroom other than their regular room) is more likely to be found than if a district has very crowded conditions. In addition, if many schools in a district have space facilities which are not heavily used, the LEA may be more likely to extend Title I services which use space facilities to those schools in which they are available. A further hypothetical example of the effect of the availability of district resources would be a case in which Title I may be used to serve added students. Because of the presence of this equipment, the LEA may feel it is feasible to serve more students than it would otherwise, and therefore target increased numbers of students of the Demonstration.

District characteristics also are likely to affect allocation policy, both in general and during the Demonstration. For example, a district which has built up a large carryover may choose to target more students, since it knows that the carryover funds are available for the purchase of additional resources with which to serve more students. The existence of other compensatory programs is also likely to be an influential factor. For example, a district which already has a state-funded remedial reading program in lower elementary grades is likely to target Title I remedial reading services to older students, in order to avoid duplication. Another district characteristic, the relative saturation of students (proportion of low-income students actually receiving Title I services) in 1975-76, may be a limiting factor on the percentage increase in students served in 1976-77. For example, a district which served 75% of all eligible students in 1975-76 is less likely to double the number of students served for 1976-77 as a district which served 25% of all eligible students in 1975-76.

Finally, unit costs of resources will influence the district's choice of program resources, and thus indirectly influence allocation. For example, an LEA which has relatively low teacher salaries may therefore use more teachers than would a district whose teacher salaries are higher. Increased use of teachers makes deconcentration among schools more feasible than would increased use of large physical facilities such as language labs, since it is easier to distribute teachers among schools and use them fully than to have several schools use a language lab which can be housed in only one school site. Another example of how a unit cost may affect district selection of allocation concerns fixed charges. A district which receives a larger fixed charge may feel itself in a better position to expand Title I services, and thus target more schools and/or students, than one which has a relatively small fixed charge which is completely used for supporting district expenses of Title I.

Thus, the non-policy factors (Box C') may exert a variety of influences on how an LEA selects a particular allocation policy, as well as influence program costs. Although it will not be possible in most instances to quantify the impact of LEA characteristics which are not susceptible to policy intervention (C'), it is necessary to take such characteristics into account as influencing factors on both policy options and effects of policy choices. The existence of the impacts of these factors would be identified by measuring the relation of LEA characteristics (C') to both policy choices (C) and policy outcomes (C), i.e., resource use and cost. The analysis implied by such conditions is multivariate. However, statistically analyzing the simultaneous effects of Title I policy choices and of nonpolicy LEA characteristics is not feasible with only thirteen cases. Thus, inferences from that analysis must be observational and judgmental rather than statistical. We provide an illustration of our analytic approach in section 12.5.2.

12.5 Effects of Allocation Policy and Other Factors on Program Costs (C/C' → D)

In order to build a framework for the cost study, we have developed hypotheses concerning the effects of allocation policy and other factors upon the resources used for program delivery and their costs. The purpose of this section is to describe the cost implications of the relationship between allocation policy (Box C) and Program Delivery (Box D). Because we are particularly interested in cost, we will not be exploring many of the otherwise important relationships between policy and program delivery which do not bear directly on costs. However, nonpolicy factors (Box C') and their effects on program delivery will be taken into account.

12.5.1 Potential Effects of Allocation Policy and Other Factors on Resource Use and Costs

If Title I allocations to the Demonstration districts do not change significantly between 1975-76 and 1976-77, we would expect:

(a) As the number of schools targeted increases, funds per school will decrease; and

(b) As the number of students targeted increases, funds per student will decrease, other things being equal.

Within this framework, the effects of the new allocation policies used by the Demonstration districts fall into seven sets of school and student targeting changes. These effects are described in terms of magnitude of change between 1975-76 and 1976-77 in number of schools and number of students served, and may be summarized as shown in Figure 12-2.

FIGURE 12-2

CHANGE IN NUMBER OF STUDENTS SERVED*

		Large Increase	Small Increase	No Increase
CHANGE IN NUMBER OF SCHOOLS SERVED	Large Increase	A	B	C
	Small Increase	D	E	(no districts in this category)
	No Increase	F	G	(no districts in this category)

In this section we examine the three most extreme effects of these seven allocation policy outcomes in Figure 12-2: cases A, C, and F. We will describe how policy and non-policy factors which affect costs are likely to be associated with changes in program delivery for those three cases. Because of the close relationship between policy and non-policy factors and their joint effects upon program delivery, our data gathering and analysis procedures do not permit us to determine the statistically separate effects of these characteristics. Instead, we use district characteristics in combination with allocation policy to help explain program delivery.

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*The letters in the figure indicate outcomes which will be referred to later in the text. Applicability of outcomes is determined from Appendices A.

Case A: Districts serve relatively many more schools and relatively many more pupils with no significant change in Title I funds.

This can be accomplished by increasing total program cost (as opposed to program fund expenditures), by changing the composition of instructional programs in such a way as to reduce per-pupil costs, or by combining elements of each of these. Total program costs can be increased several ways without changing the amount of Title I funds a district receives. These include: increased use of carryover funds; increased use of other federal and/or state funds; and increased local contributions (of funds or stocks of goods and services already on hand).

Carryover funds, which may have been allowed to accumulate for a number of years, may be used to serve more students. Using up carryover funds represents a "one-time solution," because when the carryover funds have been depleted, the number of dollars available to the program in the following year will be limited solely to that provided through the current entitlement. Other federal and/or state funds might become available to the LEA, enabling it to provide "local" (general operating) funds, or to supplement Title I funds. In addition, the LEA can provide additional stocks of goods which have been purchased in other periods (equipment, facilities) or allocate more indirect services. For example, more principals are likely to be involved in supervising building-level Title I activities if more schools are involved in the second year. This represents a form of district contribution to the program.

A second factor which might enable a district to provide relatively large increases in services among schools and students is a shift in emphasis from start-up to operation. This would take the form of a shift away from expenditures for capital goods and orientation-type training to expenditures for program operation. For this factor to operate, it would be necessary to assume that equipment and facilities were not used to capacity in previous years and that orientation expenditures are disproportionately large in the first year of the program.

Third, there may be some economies of scale operating as the program expands. For example, increases in the central office administration of Title I may be less than proportionate to increases in numbers of schools/students served. This may be a contributing factor to reducing per-pupil expenditures although total expenditures may still increase.

Fourth, decreases in unit prices make it possible to purchase more units of that good or service. Salaries for teachers is often the largest single expenditure item in education programs, typically representing 70-80% of total expenditures. If, for a variety of reasons, the average salary paid to a teacher in the district's Title I program goes down, it will free money to hire more teachers and purchase other resources. The same type of reasoning applies to paying for the fringe benefits of personnel. By reducing commitments for fringe benefits, for example, by hiring a greater proportion of part-time teachers who typically receive a much smaller fringe benefit package), money is freed to expand the program.

These factors are likely to be interrelated, and the unique effect of any one will be extremely difficult to ascertain. However, these factors can, as a group, make it possible for a district to serve a much larger number of students in a much larger number of schools without changing the composition of the Title I instructional program that an individual student receives (or total expenditures). This allocation policy can also be achieved by modifying the services provided each student in such a way that costs per student are reduced. More specifically, the increases in total cost resulting from serving more pupils in more schools is offset by decreases in the cost per pupil of the program. Examples would include: reducing the length of time each class meets and/or the number of times it meets during the school year; increasing average program class size; shifting from a "pull-out" operation of the program to one taking place in the regular classroom; and changing the mix of resources in the program to greater use of less costly resources, such as changing from teachers to teacher aides. These changes (classroom services per pupil) not only can interact with each other, but also with the factors described earlier.

Case C: Districts serve relatively many more schools without increasing the number of students served with no significant change in Title I funds.

Increasing the number of schools served without increasing the number of students served suggests a smaller decrease in Title I funds per student than in Case A. The extent to which non-Title I resources or funds could be used to cover the costs of expanding to new schools makes the availability of federal or state funds, resources from other programs, and district resource or fund contribution important factors in maintaining previous levels of per-student Title I services, although perhaps not as crucial as in Case A. Shifts in the mix of resources devoted to direct instruction are likely to be in the direction of increased use of resources which are relatively divisable, i.e., those which can operate at capacity with relatively fewer students. Instructional programs requiring a relatively large minimum number of students to be fully utilized and operate efficiently are likely to be replaced by programs which require fewer pupils. For example, a reading diagnostician who can serve 40 Title I students in one school may be able to serve only 30 students in two schools because of time spent travelling between schools. In such a case, the district may decide to fund the training of compensatory teachers in diagnostic techniques rather than to rehire the diagnostic specialist. However, central administrative functions may be able to expand the number of schools without change in their costs, although the total amount of individual school administration may increase.

The same types of reduction in total costs per student (and services) as those mentioned in Case A would also contribute to a district's ability to serve students in an increased number of schools. The likelihood and amount of such changes would depend on the size of the set-up and transfer costs of adding new schools and facilities, so that if facilities (space in particular) were readily available in newly-served schools, and there were fewer transfer costs (such as travel expense for staff serving more than one school), reductions in services per pupils (as measured in class size, minutes of instruction, and number of staff per student) would be less.

Case F: Districts serve relatively many more students without changing the number of schools served with no significant change in Title I funds.

Again, the factors outlined in Case A can be expected to operate similarly for Case F. The availability and use of other resources (from the district, other programs, or other fund sources) is a critical factor.

However, Case F is unlike Case C in that there would be a relatively larger number of students served per school (and at fewer schools). Therefore, districts using a policy which results in serving more students in the same number of schools would be expected to operate (or shift toward) resources which are not necessarily readily divisible among schools and which can be utilized by relatively large numbers of students. Such resources are often characterized by high initial (or fixed) costs. An example of such a resource which had previously been underutilized would help to maintain levels of students services without increasing total costs per student.

12.5.2 Effects of Non-Policy Factors on Choice of Allocation Policy

The effects of non-policy factors (Box C') on choice of allocation policy (Box C) are likely to exist in different combinations and have varying influences among the Demonstration districts. In Section 12.3 we examined allocation policy choices and speculated about how non-policy factors may have affected these choices. In this section we will make some general observations concerning the cause and effect relationship between non-policy factors and both allocation policy and program delivery by offering examples of the type of analytical observations which may be made.

Where both factors can be quantified some less speculative relations between non-policy factors and allocation policy are clear. For example, there appears to be a negative correlation between 1975-76 district saturation (percentage of poverty-eligible students served) and the proportion of students served in 1976-77 relative to 1975-76 (see Table 12-2). This suggests that districts which served relatively few eligible students in 1975-76 selected allocation policies which serve more students than under previous policies.

Table 12-3 shows increases in both the numbers of schools and students served by type of allocation policy. Districts which chose Type 1 (direct LEA to student) have not only the highest average percentage increase in number of schools targeted, but also a substantially higher average percentage increase in number of students targeted. As the percentage of average increase in number of schools targeted decreases (moving from typology 1 to 2 to 3) the average percentage increase in number of students targeted decreases. The fact that there appears to be a relationship between an increase in the students served and the increase in schools served in 1976-77 may be explained in part by district characteristics. For example, there may be a minimum number of students per

TABLE 12-2

SATURATION AND CHANGE IN STUDENTS SERVED BY DISTRICT $\frac{1976\text{-}77}{1975\text{-}76}$

	(A)	(B)	(C)	(D)
District	Saturation 1975-76 (% of Poverty-Eligible Students Served)	Elementary Students Served $\frac{1976\text{-}77}{1975\text{-}76} \times 100$	Rank of (A)	Rank of (B)
Adams County, Colorado	66.3%	340%	12	13
Alum Rock, California	66.1%	140%	11	5
Berkeley County, California	40.7%	166%	7	6
Boston, Massachusetts	36.3%	93%	5	2
Charlotte, North Carolina	37.9%	106%	6	3
Harrison County, West Virginia	29.4%	188%	2	10
Houston, Texas	61.1%	119%	9	4
Mesa, Arizona	72.1%	61%	13	1
Newport, Rhode Island	35.3%	254%	4	11
Racine, Wisconsin	26.3%	258%	1	12
Santa Fe, New Mexico	31.0%	175%	8	7
Winston-Salem, North Carolina	50.3%	172%	8	7
Yonkers, New York	61.9%	174%	10	8

Note: For all districts R = -.166. If Adams County, which is changing from serving all grades to serving elementary grades only, is excluded, R = -.567.

school that a program can efficiently serve in a given district. This relation between increases in schools and students served might also be explained by the availability of specific district resources to the expanded Title I program, namely space, principals' time, and/or instructional equipment and supplies. Additionally, there may be an unofficial hold-harmless attitude at the student-per-school level so as to avoid disrupting programs already in progress.

TABLE 12-3

CHANGES IN SCHOOLS AND STUDENTS SERVED BY ALLOCATION POLICY

Type of Allocation Policy	Schools Served: $\frac{1976\text{-}77}{1975\text{-}76} \times 100$	Students Served: $\frac{1976\text{-}77}{1975\text{-}76} \times 100$
1. Direct LEA to Student	177%	139%
2. Substitution of Achievement for Poverty	131%	121%
3. Educational Need, Poverty Hold-Harmless	114%	110%
4. Poverty	105%	172%

Table 12-4 indicates that "smaller" districts have targeted a larger percentage of students in 1976-77 vs. 1975-76 than have "larger" districts. Possible explanations as to why smaller districts may choose to deconcentrate services among students to a greater extent than larger districts would include the following:

TABLE 12-4

CHANGES IN STUDENTS AND SCHOOLS SERVED
BY SIZE OF DISTRICT

Three Largest Districts*		Three Smallest Districts*	
District	Students Served: $\frac{1976\text{-}77}{1975\text{-}76} \times 100$	District	Students Served: $\frac{1976\text{-}77}{1975\text{-}76} \times 100$
Houston	119%	Newport	254%
Boston	93%	Racine	258%
Charlotte	106%	Berkeley County	166%

(1) Fixed costs of administration are fixed only within a "relative range." While it may be feasible for a small district such as Newport to double the number of students targeted from 175 in 1975-76 to 350 in 1976-77 without additional administrative costs, the same would probably not be true in a large district such as Houston which served approximately 17,500 students in 1975-76.

(2) Allocation of space to Title I activities by the district may be affected similarly; while it may be possible for a small district to donate one additional classroom in each school to Title I, and thereby double the number of students served, for a large district to double the number of students served might require five additional classrooms per school.

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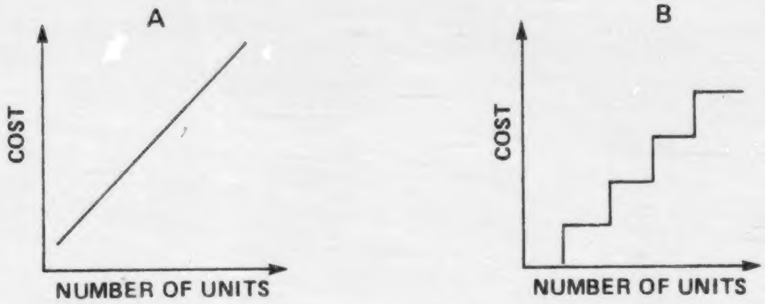
*"Largest" and "smallest" are measured by number of elementary students targeted in 1975-76.

(3) The character of a district's variable costs and their relation to efficient utilization of resources may be related to the extent of deconcentration of services. In the ideal world, variable costs are represented by linear function; that is, as the number of students served increases, variable costs will increase proportionately (as in Figure 12-3 A). In the real world, however, variable costs often take on a more "lumpy" or step-like character (as in Figure 12-3 B). For example, as a district hires one specialist, its variable costs increase by one step. One specialist per school in a large, relatively concentrated LEA might increase the number of specialists in each school from five to six, thus increasing the capacity to serve 20% more students. To add one specialist per school in a small, relatively unconcentrated LEA might increase the number of specialists in each school from one to two, thus increasing students served by 100%.

Figure 12-3

HYPOTHETICAL REPRESENTATION OF VARIABLE COSTS



12.6 Program Delivery: Data Collection and Analysis

For purposes of the cost study, Program Delivery (Box D) will be described and analyzed in terms of the resources used in Title I programs and their costs.

12.6.1 Data Collection, Data Description, and Data Sources

Each Title I program in the Demonstration will be divided into the organizational units used in the site descriptions and then be described in terms of the resources used by each unit. In this way, the data will be presented by year, by district, and by program. As in the case studies, Title I programs will be divided into program components according to the type of activity and the grade level of participating students, and further sub-divided into activity units where appropriate. For example, a Title I program may be divided into reading, math, and social services components. The reading component may be further sub-divided into elementary and high school reading activitiy units. In this way similar types of Title I activities may be compared across programs and shifts in program services among grades identified.

For the cost study, each component/activity unit, or whole program description, will have two versions. One version will display program fund expenditures (e.g., expenditures from Title I funds), by resource type for each program component or activity unit. The other will display the total costs of all resources used by the program or component/activity unit by resource type.

Resources used and their costs will be described in nine groups of variables:

(1) Fund source lists the amount and percentage of total funds or costs originating from Title I funds, Title I carryover funds, non-Title I federal funds, state compensatory program funds, local funds (compensatory or other), and any other source of support. Program gradespan for private and public school is listed. Also listed is the number of schools participating in the activity unity by type (using a simplified version of the school type categories of the Demonstration Project, in which I = Title I school 75-77, II = Title I school 76-77 only, III = Title I school 75-76 only, and IV = never Title I school).

(2) Program clients are subdivided into two sections. Students are described by number of students enrolled by school type (I-IV) and by full-time equivalent students by school type. The FTE is computed from instructional scheduling information and represents a standardized unit for measuring students served by a component/activity unit. Other (non-student) program clients are preschool children (for preschool or home programs), parents (for parent participation or PAC activities), and instructional staff (for teacher inservice activities).

(3) Instructional scheduling data include length of the regular school day, length of the instructional day, length of the regular school year, average regular class size, average program class size, length of program section meeting, section meetings per week, and length of the component/activity unit.

(4) The administrative and instructional support information indicates the number of persons, their full-time equivalencies, their salary compensation rates, and the amount of compensation received for participation in the component/activity unit broken down by staff function. Position functions include non-program professional and clerical support (for persons such as school principals who act as a significant program resource); program administration, professional and clerical (e.g., Title I directors); research and evaluation, professional and clerical (to reflect such personnel resources specifically used by the component/activity unit); and fringe benefits (if not included in salaries). In addition, instructional support personnel (i.e., those involved in working with the instructional staff) are listed by function: professional (e.g., teachers acting as resources to other teachers), and auxiliary staff (nurses, therapists, counselors, etc.), and their fringe benefit amounts.

(5) Data collected about instructional personnel breaks staff into several types: regular classroom teachers (who, in addition to regular instruction, provide some

compensatory instruction), professional teachers whose primary function is to provide compensatory instruction (and who may be further subcategorized by specific function or salary scale), and para-professional aides (subcategorized into paid and volunteer aides).

(6) Number of staff by staff type working at instruction in the component/activity unit, the sum of FTEs by staff type for instructional time spent, is computed from the instructional scheduling information. Salaried FTE for the staff in the component/activity unit is reported. Unit salary rates (averaged) for each position, compensation received, and fringe benefit amounts are reported.

(7) Materials, supplies, services, and equipment costs are categorized into instructional an administrative uses. Those used specifically for testing are so noted and included under administration. For both administration and instruction, equipment (which can be used for more than one year) is noted separately from materials, supplies, and services. (Services include the cost of contracted services for which the program does not pay fringe benefits separately.)

(8) Transportation, indirect (or overhead) charges (including rate) and operations and maintenance charge costs are also listed.

(9) Data on the use and cost of instructional space use four categories of space: students' regular classroom, pull-out classrooms, specially equipped resource room or laboratory, and other types of spaces. The type(s) of space used by the component/activity unit, the extent of its use (a calculated FTE) and an imputed unit rent for each type of space are displayed and used to calculate the estimated cost of space for the component. Costs associated with the use of instructional space will only be used for displaying total costs as fund expenditures do not include space charges. (Although in some cases, if an overhead charge is made it may be intended to reflect space charges. This will be duly noted).

(10) Summary statistics will be displayed for each program and program component: total expenditures or costs for the entire component/activity unit, for all personnel, for all non-personnel, for administration, and for instruction will be listed as totals, per total clients per student FTE, and per hour of student instruction (where appropriate).

This data will be drawn from a computerized file. A sample listing of the information, a sample format, and variable definitions are in Appendix C.

There are two primary sources for the data files. Data on numbers and types of students served, instructional scheduling, staffing, equipment and space used, and expenditures are taken from the site description files. All expenditure information by resource type and resource use is verified from district documents such as expenditure reports and program evaluations. Title I programs* will be described in three segments: total program, grades 1-6, and grades 3-4.** Where appropriate, each of these segments will be broken down into components or activity units. All of these will be taken from the case study files and district documents, as described above. When appropriate, instructional scheduling variables will be based on data from the Instructional Schedule and the Classroom Activities Log (CAL) (both described in Appendix B of the April, 1976 Analysis Plan).

The following inter- and intra-year comparisons will be made among Title I programs.

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*Other compensatory programs will also be described, but in less detail than the Title I programs.

**Although the rest of the Demonstration research is based on data from grades 3-4, the cost analysis will focus on resource use in the elementary grades (1-6) because of the limited generalizability of resource use based on only grades 3-4 and the difficulty of estimating resource use for a limited sample of Title I students.

a) Inter-Year Comparisons

1) FOR EACH DISTRICT:

(total enrollment) (FTE pupils)	YEAR I ($)	YEAR II ($)	AMOUNT OF CHANGE ($)	% CHANGE
total TI expenditures*				
total TI costs				
total TI expenditures				
per pupil (pp)				
per pupil FTE (ppfte)				
total TI costs - pp				
total TI costs - ppfte				
instructional hours - pp				
expenditures				
total costs				
instructional hours - ppfte				
expenditures				
total costs				
administrative staff - pp				
expenditures				
total costs				
administrative total - ppfte				
expenditures				
total costs				
instructional staff - pp				
expenditures				
total costs				
instructional staff - ppfte				
expenditures				
total costs				
instructional total - pp				
expenditures				
total costs				
instructional total - ppfte				
expenditures				
total costs				

2) For each district by magnitude of change in schools and students (same as above)

3) For each allocation type (I-IV) (same as above)

4) For all districts (totalled) (same as above)

NOTE: For the purpose of the first version of the cost study to be completed by September 1977, only the first two years (the planning year and the first Demonstration year) are included here. Ultimately, the third year will also be included.

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*Title I funds will be compared in each district between years in order to determine if a significant change has occurred. If there has been a change, sources of such a change (such as a change in district characteristics or in general funding levels) will be determined.

b) Intra-Year Comparisons: Among Programs for Both "Fund Expenditures" and "Total Costs"

1) All component/activity unit "summary" figures
2) Administration staff
3) Support staff
4) Research/evaluation staff
5) Research/evaluation staff plus testing materials, equipment, supplies and services
6) Instructional staff
    Teacher
    Specialist
    Aide
7) Instructional materials, supplies, services, equipment
8) Instructional staff, and instructional materials, supplies, services, and equipment

BY: number of schools by number of schools by school type
number of clients by student type
student FTE
hours of instructional activity per year

12.6.2 Measurements and Analysis of the Effects of Allocation Policy and Other Factors on Program Delivery (Boxes C/C' ⟶ D)

This section describes how the data in the preceding section will be used to determine the effects of policy and non-policy factors on resource distribution and program cost.

As discussed in Section 12.3, the use of non-Title I resources to provide Title I services is probably the single most important factor in explaining how LEAs can extend Title I services to increased numbers of schools and/or students without significant change in Title I funding. The sources of outside funds or resources are likely to be Title I carryover funds, district donation of resources, other programs in the district, and other federal/state funds. As discussed in Section 12.6.1 above, each program's resource use and resource cost description will be described in terms of both Title I fund expenditures and total costs. Thus, the total cost version will include time spent by regular district administration and instructional personnel on Title I activities, use of space whose cost is not borne by Title I, annualized costs of previously purchased resources, etc. The source of all non-Title I resources will be identified, and the use of such resources will be compared among years and among districts and programs in order to determine if the use of outside resources increased during the Demonstration.

The use of district-supplied resources will be compared to district expenditures per student, assessed valuation per student, and local tax rates, in order to determine if there is a relationship between the general wealth of a district and the use of district resources for Title I activities.

Other district characteristics, such as the presence and composition of other compensatory programs, recent Title I history (including the extent of saturation), and changes in district situation (from changes in enrollment patterns and/or demographic characteristics) will be reviewed and compared to the extent of non-Title I resource use.

Changes in specified unit costs (i.e., instructional staff salary level, fringe benefits, and indirect charges) will also be determined and compared by allocation type across districts in order to estimate: 1) a relationship between unit price change and resource use, and 2) a relationship between unit price change and allocation policy. In order to determine the magnitude of the effect of price changes on program costs, the cost of each district's Title I program during the Demonstration will be calculated using pre-Demonstration unit costs (in "real" or deflated dollars). In order to assess the magnitude of the effect of differences in unit costs on resource choice in the Demonstration districts, a resource model of "typical" Title I programs will be constructed, and program costs for each district will be calculated using each district's unit costs. These calculated costs for the "typical" program in each of the districts will be compared to the model and compared to national average unit costs which may be interpreted as a baseline against which the relative "expensiveness" of program costs in the individual Demonstration districts can be judged.

Evidence of the existence of an economy of scale in resource use will be identified for appropriate resource types by comparing the cost of the resource per student to the proportion of total program costs that resource represents for each year. For example, if administration costs per student decreased proportionately more per student than did administration as a proportion of total costs, it suggests that the administrative costs of increasing students served are decreasing.

Certain shifts in resource use, which will be measured in the change comparisons described in Section 12.6.1 above, must be observed within the context of the individual district in order to judge if they suggest indivisibility of a resource type or represent a shift from start-up to recurrent costs. For example, a decrease in inservice costs where there is no basic change in program objectives and resource use between years suggests that the inservice represented a one-time cost. However, a shift in instructional resources to instructional personnel in a district which is deconcentrating suggests that the instructional equipment was not readily "divisible" for use in the new Title I schools.

These procedures, as well as others developed during data collection, will be used to analyze the effects of changes in allocation policy and of other factors on resource use and costs in the Title I programs in the 13 Demonstration districts.

13.0 REPORTING SCHEDULE

Abt Associates Inc. (AAI) is working very closely with the staff of the Compensatory Education Division of the Educational Equity Group at the National Institute of Education (NIE) in the analyses of these data. Because of the Congressional mandate for this study and the resulting requirement that the analysis be communicated to Congress directly and in a timely manner, the reporting schedule has been constructed to facilitate continual discussion of the analysis between AAI and NIE and to guarantee that the appropriate analyses are available to Congress in September and December of 1977. A description of the schedule is presented below. First, analytic reports which were delivered prior to this one are described. Second, reporting planned subsequent to this report are outlined.

Prior to this report, three formal analytic reports have been provided to NIE. These are the following:

- Research on Demonstration Title I Compensatory Education Projects: Analysis Plan, Volumes I & II (April 7, 1976).
- Executive Summary of the Analysis Plan for Research on the Effects of Demonstration Title I Compensatory Education Projects (July 15, 1976).
- A Comparison of Demographic Characteristics of Demonstration Title I School Districts With National Estimates (September 9, 1976).

In addition to these formal reports, AAI staff members participated in the drafting, review, and revision of NIE's Report to Congress, "Evaluating Compensatory Education: An Interim Report on the NIE Compensatory Education Study," December 30, 1976.

For the future, the following reporting schedule will be followed:

PRODUCT	CONTENT	PROPOSED DELIVERY DATE
1. Site Description Report	Program Delivery and Allocation Policy	February 28, 1977
2. Report on Statistical Analysis of Year 1 Baseline Data	Characteristics of Title I Students Instructional Services Received Community Response	February 28, 1977
3. Working Paper No. 1	Allocation Policy Related to Student Characteristics	April 1, 1977
4. Working Paper No. 2	Allocation Policy Related to Program Delivery	April 15, 1977
5. Working Paper No. 3	Allocation Policy Related to Instruction	April 30, 1977
6. Working Paper No. 4	Additional Systemic Relations	April 30, 1977
7. Report on Year 1 - Year 2 Comparisons: Statistical Analyses and Site Descriptions Volume I	Characteristics of Students Instructional Services Received by Students Program Delivery Policy Implementation Allocation Policy As it Affects Characteristics of Students Served and Instructional Services Received	September 1977
8. Report on Year 1 - Year 2 Comparisons: Statistical Analyses and Site Descriptions Volume II	Cost Analysis Community Reaction Instructional Practices Achievement Outcomes	December 1977

The first product is a report on the allocation policies being implemented at each of the 13 sites, general characteristics of the LEAs, and programs operating in the LEAs. This report is descriptive. It is based on a review of documents and informal interviews with administrators and other LEA personnel.

The second product listed includes analysis of the questionnaire and interview data collected during 1975-76. The report of this data analysis will be primarily descriptive: reliability estimates, variance estimates, marginal distributions, sampling errors, and other descriptive statistics. This report will provide a full description of the baseline data, thus permitting informed and precise discussion during the winter and spring of 1977 of plans for change analysis.

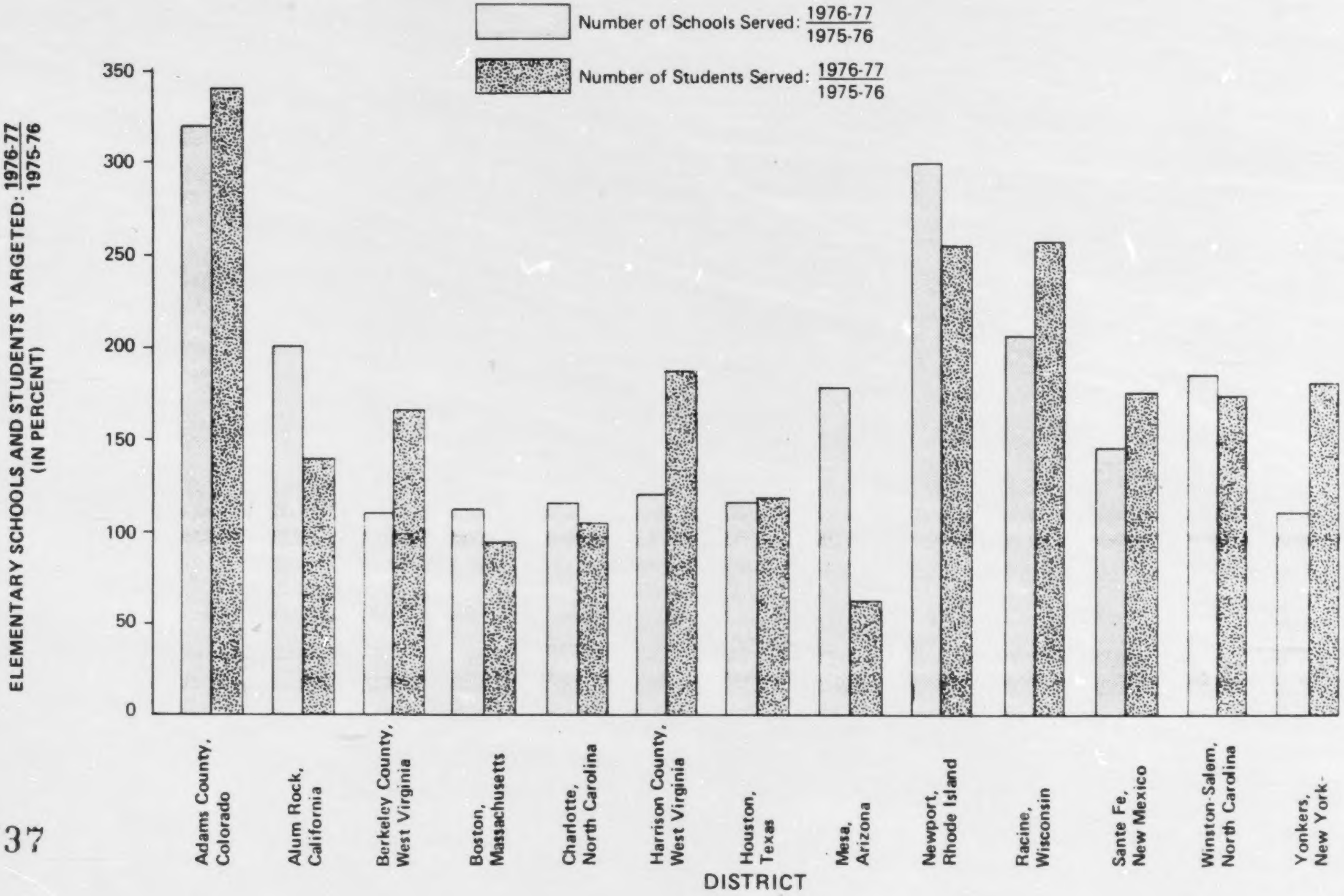
The third through sixth products are working papers on the specified topics. Such working papers would begin from the descriptive data provided in the second report, and would describe in some detail our procedures for analyzing change between the baseline year and the first implementation year. Such papers would include table shells. The intent of these working papers is to provide the basis for firm agreements between AAI and NIE in order that the analysis of change can take place rapidly during the spring and summer of 1977. Thus, meetings reviewing these working papers will take place within two weeks after their submission. This is the only way to assure that AAI provides NIE with the analyses now required in the September 1977 Report to Congress.

The September Report (Product No. 7) will be a comprehensive analysis of the change resulting from new allocation policies. It will encompass the crucial questions of what kinds of students receive Title I services, as well as how much and what kinds of services they receive. It will compare these results for each year.

The December Report (Product No. 8) will supplement the analysis in Product No. 7 both by explicating its analyses and by introducing new analyses in the area of cost, community response, instructional practices, and achievement outcomes.

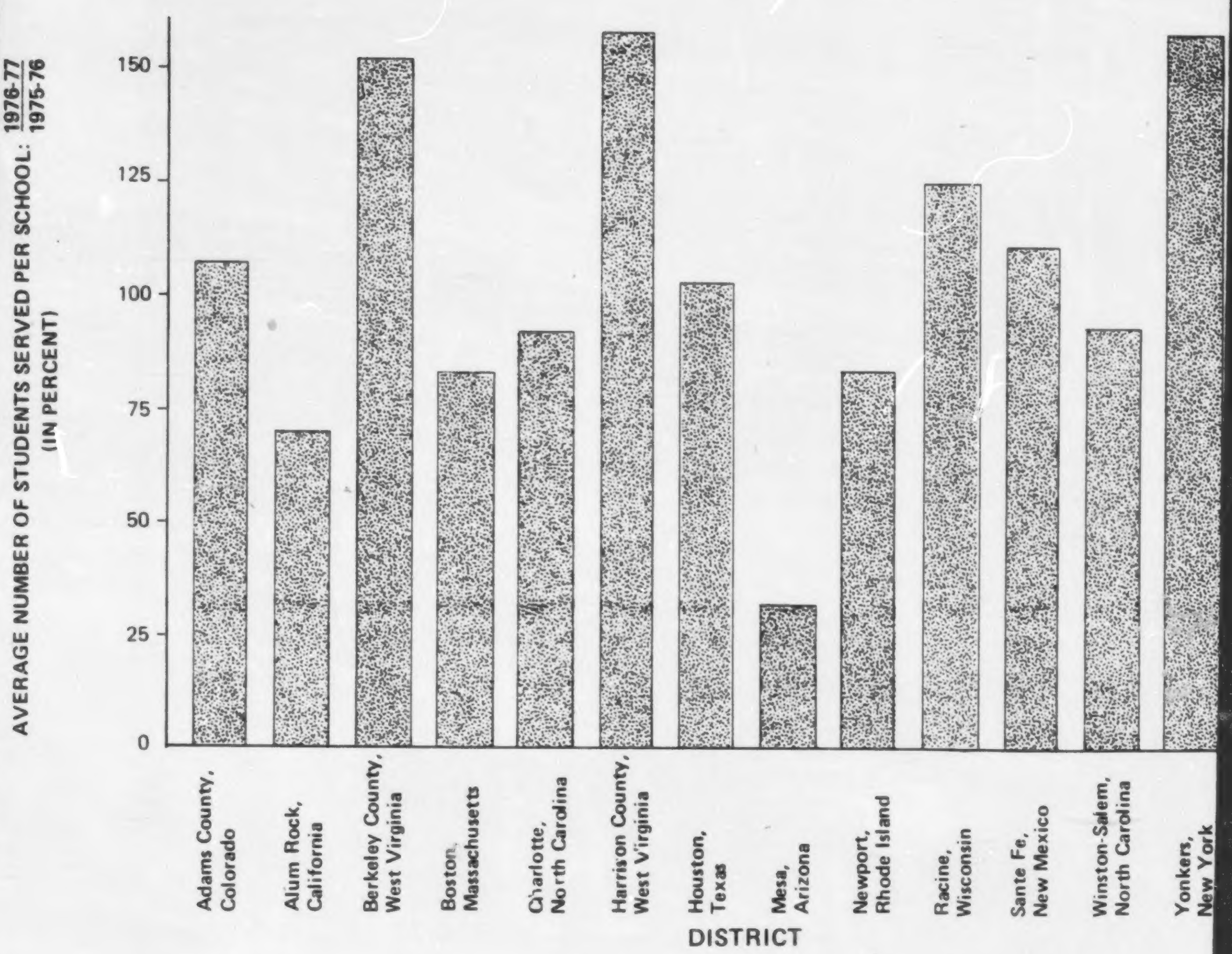
Appendix A

Numbers of Elementary Schools and Students Served by District : 1976-77 / 1975-76



Appendix B

Elementary Students Served Per School By District: $\frac{1976\text{-}77}{1975\text{-}76}$



APPENDIX C

DEFINITIONS OF COST DATA VARIABLES

(Variable name in parentheses)

YEAR: (SEASON) Summer or regular school year
(YEAR) Year during which activity unit/component/program occurred

DISTRICT: (DISTRCT) Name of district
(SID) School district ID number

PROGRAM: (BIGPIC) Name of program

COMPONENT: (COMPONE) Name of component

DOLLAR TYPE: (D TYPE) Program fund expenditures or total cost

ACTIVITY UNIT: (PROGRM) Activity unit name and brief description

FUND SOURCE
AMOUNT: (FUND1 ... FUND6) $ amount expended as shown
PCTTOTAL: (PFUND 1 ... PFUND6) Percent of total amount expended

by TITLE I
TITLE I CARRYOVER
NON-TITLE I FEDERAL
STATE COMPENSATORY
LOCAL
OTHER

TOTAL: (TFUND) Total $ expended for activity unit/component/program defined above

PROGRAM GRADESPAN
PRIVATE: (PGSRF) Lowest grade in private schools served by activity unit/component
(PGSRT) Highest grade in private schools served by activity unit/component
PUBLIC: (PGSUF) Lowest grade in public schools served by activity unit/component
(PGSUT) Highest grade in public schools served by activity unit/component

ACTIVITY UNIT ID: (AID) ID number containing district number, program number, activity unit number, year, and card number

SCHOOL TYPE I, II, III, IV
NUMBER: (NOSCHO1 ... NOSCHO4) Number of schools by type served by activity unit/component
TOTAL: (TONO) Total number of schools served by activity unit/component

PROGRAM CLIENTS

- STUDENTS: (NUMCLI1 ... NUMCLI5) Number of students served (enrollment) in activity unit/component by school type (I...IV)
- FTE: (FTEPUP1 ... FTEPUP5) Student full-time equivalent, calculated from instructional scheduling data, in activity unit component

- TOTAL STUDENTS: (ENROLL) Total number of students enrolled in activity unit/component
  - (TOTPUB) Total FTE students enrolled in activity unit/component

- OTHER CLIENTS:
  - PRE-SCHOOL CHILDREN: (NUMOTH1) Number of pre-school children served by activity unit/component
  - PARENTS: (NUMOTH2) Number of parents served
  - INSTRUCTIONAL STAFF: (NUMOTH3) Number of instructional staff served
  - OTHER: (NUMOTH4) Any other clients served
  - TOTAL OTHER CLIENTS: (TOTOTH) Total non-student clients served by activity unit/component
- TOTAL CLIENTS: (TCLI) Total of all student and non-student clients served

ADMINISTRATIVE AND INSTRUCTIONAL SUPPORT

- ADMINISTRATIVE SUPPORT -- Administrative refers to services provided to an activity unit/component/program which do not deal directly with students or teachers for instructional purposes
  - NON-PROGRAM ADMINISTRATION - Administrative support for activity unit/component which is not from program funds
    - PROFESSIONAL -- e.g. district administrators, school principals
    - SECRETARIAL/CLERICAL - Office support staff
  - PROGRAM ADMINISTRATION - Administrative support for activity unit/component which is from program funds
    - PROFESSIONAL -- e.g. Title I Director, program administrators
    - SECRETARIAL/CLERICAL - Office support staff
  - RESEARCH/EVALUATION -- Refers to program and non-program staff performing research and evaluation for activity unit/component/program
    - PROFESSIONAL
    - SECRETARIAL/CLERICAL - Office support staff.
  - OTHER ADMINISTRATION -- Any other administrative personnel who do not fit into above categories

ADMINISTRATIVE AND INSTRUCTIONAL SUPPORT (cont'd.)

FIXED CHARGES: (INFXR %) - Percent rate of calculating staff fringe benefits such as retirement, insurance, etc.

(FIXAD) - Total $ amount of benefits for instructional support

TOTAL ADMINISTRATIVE SUPPORT - Summations

INSTRUCTIONAL SUPPORT

PROFESSIONAL -- e.g. resource teachers, program instructional coordinators, etc.

AUXILIARY -- Therapists, counselors, psychologists, nurses, librarians, social workers and others performing auxiliary services

OTHER -- Other personnel who provide services related to instructional activities

FIXED CHARGES: (INFIXR %) - Percent rate for calculating staff fringe benefits such as retirement, insurance, etc.

(FIXIN)- Total $ amount of benefits for instructional support

TOTAL ADMIN. AND INSTRUCT. SUPPORT - Summationa

BY NUMBER: (ADNUM1 ... ADNUM7) and (INNUM1 ... INNUM3) --- Numbers of persons performing specified function

FTE: (ADFTE1 ... ADFTE7) and (TINFTE1 ... TINFTE3) --- Full time equivalent based on 52 weeks per year devoted to activity unit or component. When category contains more than one person, FTEs are summed.

$RATE: (ADRAT1 ... ADRAT7) and (INRAT1 ... INRAT3) --- Amount of full-year, full-time salary paid to person (or where more than one person in category, their average full salary)

$COMPENSATION: (ADCOM1 ... ADCOM7) and (TINCOM1 ... TINCOM3) --- Total amount of salary(s) paid to person(s) in category. Will equal approximately FTE X $RATE

TOTAL ADMINISTRATIVE SUPPORT: (TOAD) - Sum of numbers in ADNUM1 ... ADNUM7

(TADFTE) - Sum of numbers in ADFTE1 ... ADFTE7

($TADCOM) - Sum of numbers in TADCOM1 ... TADCOM7

ADMINISTRATIVE AND INSTRUCTIONAL SUPPORT (cont'd.)

TOTAL ADMIN. AND INSTRUCT. SUPPORT: (GTOAD) - Sum of numbers in ADNUM1 ... ADNUM7 and INNUM1 ... INNUM3

(GNDFTE) - Sum of numbers in ADFTE1 ... ADFTE7 and TINFTE1 ... TINFTE3

(GBUCKS) - Sum of TADCOM, FIXIN and TINCOM1 ... TINCOM3

INSTRUCTIONAL SCHEDULING DATA

LENGTH OF SCHOOL DAY: (LSDAY) Number of minutes in regular school day

LENGTH OF INSTRUCTIONAL DAY: (LINDAY) Number of minutes in regular day during which instruction is offered (excludes lunch, recess, etc.)

LENGTH OF SCHOOL YEAR: (LENYER) Number of instructional school days in year

AVERAGE REGULAR CLASS SIZE: (ARCS) Number of students in regular instructional class

AVERAGE PROGRAM CLASS SIZE: (AVPRSEC) Average number of students in compensatory instruction group for activity unit/component

NUMBER OF PROGRAM SECTIONS: (PROSEC) Activity unit/component enrollment divided by average program class size

LENGTH OF MEETING: (MINSEC) Average number of minutes in a section meeting for activity unit/component student enrollment divided by average program class size

MEETINGS PER WEEK PER SECTION: (METWEK) Average number of times per week student receives instruction in activity unit/component

LENGTH OF ACTIVITY UNIT: (WEKYER) Average number of weeks student receives instruction in activity unit/component

INSTRUCTIONAL HOURS: (XTRA) Total number of hours of instruction per year in activity unit/component.

INSTRUCTIONAL PERSONNEL

TYPE

TEACHER - Regular professional classroom teacher who spends some proportion of his/her time giving compensatory instruction as well as regular instruction

SPECIALIST - Professional teacher who provides compensatory instruction. (Three categories of "specialist" are included in order to differentiate among staff who have different functions, qualifications or salary levels.)

AIDE - Para-professional staff who provide compensatory instruction and/or assist teacher or specialist in providing compensatory instruc-

INSTRUCTIONAL PERSONNEL, cont'd.

TYPE, cont'd.

AIDE - tion. (Two categories of "aide" are included in order to differentiate among staff who have different functions, qualifications or salary levels.)

OTHER - Staff who provide compensatory instruction in the activity unit/component but who do not fit into the categories above.

FIXED CHARGES:

(Fringer %) - Percent rate for calculating benefits such as retirement, insurance, etc.

(TFRINGE) - Amount of benefits for all instructional staff.

BY

STAFF/SECTION (STFSEC1 ... STFSEC7) - Number of each type of staff who meet with students durint a typical compensatory instruction section.

NUMBER (STFNUM1 ... STFNUM7) - Number of instructional staff in activity unit/component.

INSTRUCTIONAL FTE (INFTE1 ... INFTE7) - Full-time equivalent staff time spent in actual instruction, calculated from Instructional Scheduling Data.

SALARY FTE (SALFTE1 ... SALFTE7) - Full-time equivalent used for salary compensation, summed when more than one person in staff type. (40 wks/yr)

$RATE (IRATE1 ... IRATE7) - Full-time salary for staff type (or average for more than one staff).

$COMPENSATION (ICOMP1 ... ICOMP7) - Actual $ amount paid in salaries for all persons in staff type.

TOTAL: (TNUM) - Total number (sum) of all types of instructional staff in activity unit/component.

(TIFTE) - Sum of all instructional staff instructional FTE for activity unit/component.

(TSALFTE) - Sum of instructional staff salaried FTE for activity unit/component.

(TWAGE) - Total $ amount spent on instructional staff salaries and benefits for activity unit/component.

INSTRUCTIONAL SPACE (Location in which student receives compensatory instruction in the activity unit/component).

REGULAR CLASSROOM - Same room in which student also receives regular instruction

PULL-OUT CLASSROOM - A standard classroom in which student receives compensatory instruction only

RESOURCE ROOM/LAB - A room in which student receives compensatory instruction which is specially equipped or furnished for compensatory instruction purposes

OTHER

INSTRUCTIONAL SPACE, cont'd.

BY

USED: (SPUSED1 ... SPUSED4) - 1 or 0 to indicate whether the activity unit/component uses this space for instruction

FTE SPACES: (FTESPC1 ... FTESPC4) - Calculated by comparing activity unit/component use of space to availability of the space during the school year using instructional scheduling data.

UNIT RENT: (IMRENT) ... IMRENT4) - Imputed unit rent for each type of space.

RENT: (RENTOT1 ... RENTOT4) - Product of FTESPC X IMRENT to estimate cost of using that type of space.

TOTAL: (TSPACE) - Total (summed) FTE spaces used by activity unit/component.

(GRENT) - Sum of estimated costs of space used by activity unit/component.

MATERIALS, SUPPLIES, SERVICES, EQUIPMENT

INSTRUCTIONAL MAT., SUPP., SERVICES: (INMAT) - $ Amount spent on materials, supplies and used for instruction services in the activity unit/component (for which no fixed charge is calculated), such as consultants.

INSTRUCTIONAL EQUIPMENT: (EQINS) - $ amoung spent on non-disposable equipment, such as AV machines, used for instruction

TOTAL M., S., S. AND E.: (IMSE) - Total $ amount spent on instructional materials, supplies, services, and equipment.

ADMINISTRATIVE MAT., SUPP., SERVICES: (ADMAT) - $ amount spent for materials, supplies, services (for which no fixed cost is calculated) used for administration of the activity unit/component.

ADMINISTRATIVE EQUIPMENT: (EQNON) - $ amount spent on non-disposable equipment used by administrative staff.

TESTING M., S., S., AND E.: (TESTMAT) - $ amount spent by administration on materials, supplies, services and equipment specifically for testing purposes.

TOTAL ADMINISTRATIVE M., S., S. AND E.: (AMSE) - Total $ amount spent for administrative (including testing) materials, supplies, services and equipment for the activity unit/component.

TRANSPORTATION: (TRANS) - $ amount spent on transportaiton of any type for activity unit/component.

INDIRECT COST CHARGE: (INCH %)- % at which indirect cost charge for total program is calculated

(OVERHED) - $ amount of program indirect charge pro-rated to this activity unit.

OPER. AND MAIN. CHARGE: (KLENUP)-$ amount of any operations and maintenance charge attributable to this activity unit/component.

ACTIVITY UNIT SUMMARY

ACTIVITY UNIT $ - Sum of all $ amounts shown for the activity unit/component.

PERSONNEL $ - Sum of all $ amounts shown for administrative and instructional staff.

NONPERSONNEL $ - Sum of all $ amounts shown for administrative and instructional materials, supplies, services and equipment, for space and for transportation, indirect charges and operations and maintenance charges.

ADMINISTRATION $ - Sum of all $ amounts shown for administrative support and administrative materials, supplies, services, equipment and testing.

INSTRUCTION $ - Sum of all $ amounts for instructional support, instructional staff, instructional space and instructional materials, supplies, services and equipment.

BY

TOTAL: (TCOST, PERTOT, NPRTOT, ABUCKS, IBUCK) - Total $ amounts.

PER CLIENT: (BUKCLI1 ... BUKCLI5) - Total $ amounts divided by total clients.

PER STUDENT FTE: (BUKFTE1 ... BUKFTE5) - Total $ amounts divided by the total student FTE.

FUND SOURCE	AMOUNT	PCT.TOTAL
TITLE I	$ FUND1	PFUND1
TITLE I CARRYOVER	$ FUND2	PFUND2
NON TITLE I FEDERAL	$ FUND3	PFUND3
STATE COMPENSATORY	$ FUND4	PFUND4
LOCAL	$ FUNAS	PFUND5
OTHER	$ FUND6	PFUND6
TOTAL	$ TFUND	

YEAR: SEASON YEAR
DISTRICT: DISTRCT SID
PROGRAM: BIGPIC
COMPONENT: COMPONE
DOLLAR TYPE: DTYPE
ACTIVITY UNIT: PROGRM

PROGRAM GRADE SPAN
PRIVATE: PGSRF TO PG SRT
PUBLIC: PGSUP TO PGSUT

ACTIVITY UNIT I.D. AID

SCHOOL TYPE	NUMBER
I	NOSCHO1
II	NOSCHO2
III	NOSCHO3
IV	NOSCHO4
TOTAL	TONO

PROGRAM CLIENTS	NUMBER	F.T.E.
STUDENTS		
SCHOOL TYPE I	NUMCLT1	FTEPUP1
SCHOOL TYPE II	NUMCLT2	FTEPUP2
SCHOOL TYPE III	NUMCLT3	FTEPUP3
SCHOOL TYPE IV	NUMCLT4	FTEPUP4
OTHER	NUMCLT5	FTEPUP5
TOTAL STUDENTS	ENROLL	TOTPUP
OTHER CLIENTS		
PRE-SCHOOL CHILDREN	NUMOTH1	
PARENTS	NUMOTH2	
INSTRUCTIONAL STAFF	NUMOTH3	
OTHER	NUMOTH4	
TOTAL OTHER CLIENTS	TOTOTH	
TOTAL CLIENTS	TCLI	

ACTIVITY UNIT SUMMARY

	TOTAL	PER CLIENT	PER STUDENT F.T.E.
ACTIVITY UNIT $	$ TCOST	$ BIGCLI1	$ BIGFTE1
PERSONNEL $	$ PERTOT	$ BIGCLI2	$ BIGFTE2
NON PERSONNEL $	$ NPERS	$ BIGCLI3	$ BIGFTE3
ADMINISTRATION $	$ ADMCOS	$ BIGCLI4	$ BIGFTE4
INSTRUCTION $	$ INCOS	$ BIGCLI5	$ BIGFTE5
INSTRUCTIONAL HRS			

INSTRUCTIONAL SCHEDULING DATA

LENGTH OF SCHOOL DAY	LSDAY	MINUTES
LENGTH OF INSTRUCTIONAL DAY	LINDAY	MINUTES
LENGTH OF SCHOOL YEAR	LENYER	DAYS
AVERAGE REGULAR CLASS SIZE	ARCS	STUDENTS
AVERAGE PROGRAM CLASS SIZE	AVPRGC	STUDENTS
NUMBER OF PROGRAM SECTIONS	PRSEC	
LENGTH OF SECTION MEETING	MINSEC	MINUTES
MEETINGS PER WEEK OF SECTION	PERWEK	
LENGTH OF ACTIVITY UNIT	WEEKER	WEEKS
INSTRUCTIONAL HOURS	XTRA	HOURS

MATERIALS, SUPPLIES, SERVICES, EQUIPMENT

INSTRUCTIONAL MAT., SUPP., SERVICES	$ INMAT
INSTRUCTIONAL EQUIPMENT	$ EQINS
TOTAL INSTRUCTIONAL M., S., S., AND E.	$ IMSE
ADMINISTRATIVE MAT., SUPP., SERVICES	$ ADMAT
ADMINISTRATIVE EQUIPMENT	$ EQMON
TESTING M S., S., AND E.	$ TESMAT
TOTAL ADMINISTRATIVE M., S., S., AND E.	$ AMSE
TRANSPORTATION	$ TRANS
INDIRECT COSTS CHARGE (INCH %)	$ OVERHED
OPER. AND MAIN. CHARGE	$ KLENUP

ADMINISTRATIVE AND INSTRUCTIONAL SUPPORT

	NUMBER	F.T.E.	$ RATE	$ COMPENSATION
ADMINISTRATIVE SUPPORT				
NON-PROGRAM ADMINISTRATION				
PROFESSIONAL	ADNUM1	ADFTE1	$ ADRAT1	$ ADCOM1
SECRETARIAL/CLERICAL	ADNUM2	ADFTE2	$ ADRAT2	$ ADCOM2
PROGRAM ADMINISTRATION				
PROFESSIONAL	ADNUM3	ADFTE3	$ ADRAT3	$ ADCOM3
SECRETARIAL/CLERICAL	ADNUM4	ADFTE4	$ ADRAT4	$ ADCOM4
RESEARCH/EVALUATION				
PROFESSIONAL	ADNUM5	ADFTE5	$ ADRAT5	$ ADCOM5
SECRETARIAL/CLERICAL	ADNUM6	ADFTE6	$ ADRAT6	$ ADCOM6
OTHER ADMINISTRATION	ADNUM7	ADFTE7	$ ADRAT7	$ ADCOM7
FIXED CHARGES (ADFIXR %)				$ FIXAD
TOTAL ADMINISTRATIVE SUPPORT	TCAD	TADFTE		$ TADSCM
INSTRUCTIONAL SUPPORT				
PROFESSIONAL	INNUM1	INFTE1	$ INRATE	$ INCOM1
AUXILIARY	INNUM2	INFTE2	$ INRAT2	$ INCOM2
OTHER	INNUM3	INFTE3	$ INRAT3	$ INCOM3
FIXED CHARGES (INFIXR %)				$ FIXIN
TOTAL ADMIN. AND INSTRUCT. SUPPT.	GRAD	GADFTE		$ [illegible]

INSTRUCTIONAL PERSONNEL

TYPE	STAFF/SECTION	NUMBER	INST. F.T.E.	SALARY F.T.E.	$ RATE	$ COMPENSATION
TEACHER	STFSEC1	STFNUM1	INFTE1	SALFTE1	$ IRATE1	$ ICOMP1
SPECIALIST	STFSEC2	STFNUM2	INFTE2	SALFTE2	$ IRATE2	$ ICOMP2
SPECIALIST	STFSEC3	STFNUM3	INFTE3	SALFTE3	$ IRATE3	$ ICOMP3
SPECIALIST	STFSEC4	STFNUM4	INFTE4	SALFTE4	$ IRATE4	$ ICOMP4
AIDE	STFSEC5	STFNUM5	INFTE5	SALFTE5	$ IRATE5	$ ICOMP5
AIDE	STFSEC6	STFNUM6	INFTE6	SALFTE6	$ IRATE6	$ ICOMP6
OTHER	STFSEC7	STFNUM7	INFTE7	SALFTE7	$ IRATE7	$ ICOMP7
FIXED CHARGES (FRINGR %)						$ TFRINGE
TOTAL		TNUM	TIFTE	TSALFTE		$ TWAGE

INSTRUCTIONAL SPACE	USED	F.T.E. SPACES	UNIT RENT	RENT
REGULAR CLASSROOM	SPUSED1	FTESPC1	$ IMRENT1	$ [illegible]
PULL-OUT CLASSROOM	SPUSED2	FTESPC2	$ IMRENT2	$ [illegible]
RESOURCE ROOM/LAB	SPUSED3	FTESPC3	$ IMRENT3	$ [illegible]
OTHER	SPUSED4	FTESPC4	$ IMRENT4	$ [illegible]
TOTAL		TSPACE		$ [illegible]

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                                   PROGRAM UNIT REPORT
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DOLLAR TYPE: EXPENDITURE
YEAR: 1975-76
DISTRICT: RACINE
PROGRAM: TITLE I
COMPONENT: REMEDIAL READING
ACTIVITY UNIT:  ELEMENTARY PROGRAM SERVING 14 PUBLIC AND
      6 PAROCHIAL SCHOOLS

FUND SOURCE               AMOUNT     PCT. TOTAL
 TITLE I               $  321189.     76.90
 TITLE I CARRY OVER    $   96482.     23.10
 NON TITLE I FEDERAL   $       0.      0.00
 STATE COMPENSATORY    $       0.      0.00
 LOCAL                 $       0.      0.00
 OTHER                 $       0.      0.00
 TOTAL                 $  417671.    100.00

INSTRUCTIONAL SPACE        USED   F.T.E. SPACES  UNIT RENT   RENT
REGULAR CLASSROOM          0.00        0.00      $   0.    $    0.
PULL-OUT CLASSROOM         0.00        0.00      $   0.    $    0.
RESOURCE ROOM/LAB          1.00        2.21      $   0.    $    0.
OTHER                      0.00        0.00      $   0.    $    0.
TOTAL                                  2.21                $    0.

ADMINISTRATIVE AND INSTRUCTIONAL SUPPORT
                                        NUMBER  F.T.E.    $RATE    $COMPENSATION
ADMINISTRATIVE SUPPORT
 NON-PROGRAM ADMINISTRATION
  PROFESSIONAL                            0.     0.00  $     0.  $      0.
  SECRETARIAL/CLERICAL                    0.     0.00  $     0.  $      0.
 PROGRAM ADMINISTRATION
  PROFESSIONAL                            2.     1.38  $17151.   $  23669.
  SECRETARIAL/CLERICAL                    2.     1.38  $ 6020.   $   8307.
 RESEARCH/EVALUATION
  PROFESSIONAL                            2.      .58  $15698.   $   9105.
  SECRETARIAL/CLERICAL                    3.     1.15  $ 5154.   $   5927.
 OTHER ADMINISTRATIVE                     2.      .58  $ 8709.   $   5051.
 FIXED CHARGES ( .247 PCT.)                                      $  12879.
 TOTAL ADMINISTRATIVE SUPPORT            11.     5.07            $  64938.
INSTRUCTIONAL SUPPORT
 PROFESSIONAL                            13.     9.90  $ 8727.   $  86397.
 AUXILIARY                                0.     0.00  $     0.  $      0.
 OTHER                                    0.     0.00  $     0.  $      0.
 FIXED CHARGES ( .247 PCT.)                                      $  21375.
TOTAL ADMIN. AND INSTRUCT. SUPPT.        24.    14.97            $ 172710.

INSTRUCTIONAL PERSONNEL
TYPE        STAFF/SECT.  NUMBER  INST.F.T.E.  SAL.F.T.E.   $RATE   $COMPENSATION
TEACHER         0.0        0.       0.00         0.00     $    0. $      0.
SPECIALIST       .1       13.       3.97         1.10     $ 8727. $   9600.
SPECIALIST      0.0        0.       0.00         0.00     $    0. $      0.
SPECIALIST      0.0        0.       0.00         0.00     $    0. $      0.
AIDE            1.0       42.      39.70        42.00     $ 3433. $ 148923.
AIDE            0.0        0.       0.00         0.00     $    0. $      0.
OTHER           0.0        0.       0.00         0.00     $    0. $      0.
FIXED CHARGES ( .247 PCT.)                                        $  39219.
TOTAL                     55.      43.67        43.10             $ 197742.
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PROGRAM GRADE SPAN
 PRIVATE:  01  TO 06
 PUBLIC:   01  TO 06

ACTIVITY UNIT I.D.  221103016.

SCHOOL TYPE   NUMBER
  I              14.
  II              0.
  III             0.
  IV              0.
  OTHER           6.
TOTAL            20.
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PROGRAM CLIENTS              NUMBER   F.T.E

 STUDENTS

   PUBLIC SCHOOLS              500.     66.16
   OTHER SCHOOLS               100.     13.23
   TOTAL STUDENTS              600.     79.39

 OTHER CLIENTS
   PRE-SCHOOL CHILDREN           0.
   PARENTS                       0.
   INSTRUCTIONAL STAFF           0.
   OTHER                         0.
   TOTAL OTHER CLIENTS           0.

 TOTAL CLIENTS                 600.


MATERIALS, SUPPLIES, SERVICES, EQUIPMENT
 INSTRUCTIONAL MAT.,SUPP.,SERVICES          $ 32889.
 INSTRUCTIONAL EQUIPMENT                    $  6821.
TOTAL INSTRUCTIONAL M.,S.,S., AND E.        $ 39710.
 ADMINISTRATIVE MAT.,SUPP.,SERVICES         $  1229.
 ADMINISTRATIVE EQUIPMENT                   $  1400.
 TESTING M.,S.,S., AND E.                   $     0.
TOTAL ADMINISTRATIVE M.,S.,S., AND E.       $  2629.

TRANSPORTATION                              $  2000.
INDIRECT COSTS CHARGE (0.000 PCT.)          $     0.
OPER. AND MAIN. CHARGE                      $  2880.


ACTIVITY UNIT SUMMARY
                      TOTAL    PER CLIENT PER STU FTE PER INS HR
ACTIVITY UNIT     $ 417671. $   696.   $ 5261.    $   11.
PERSONNEL         $ 370452. $   617.   $ 4666.    $   10.
NON PERSONNEL     $  47219. $    79.   $  595.    $    1.
ADMINISTRATION    $  67567. $   113.   $  851.    $    2.
INSTRUCTION       $ 345223. $   575.   $ 4348.    $    9.


 INSTRUCTIONAL SCHEDULING DATA
  LENGTH OF SCHOOL DAY               360.  MINUTES
  LENGTH OF INSTRUCTIONAL DAY        300.  MINUTES
  LENGTH OF SCHOOL YEAR              185.  DAYS
  AVERAGE REGULAR CLASS SIZE          30.  STUDENTS
  AVERAGE PROGRAM CLASS SIZE           2.  STUDENTS
  NUMBER OF PROGRAM SECTIONS         300.
  LENGTH OF SECTION MEETING           51.  MINUTES
  MEETINGS PER WEEK OF SECTION         4.
  LENGTH OF ACTIVITY UNIT             36.  WEEKS
  TOTAL HOURS OF INSTRUCTION       36720.  HOURS
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